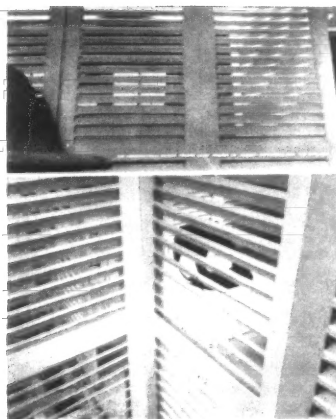


THE ARCHITECTURAL REVIEW

Volume 126 Number 751 August-September 1959



This month's cover emphasizes the use of louvered screens (commonly called Venetian shutters) as space-manipulators in the recently-rebuilt and refurbished editorial offices of THE ARCHITECTURAL REVIEW. As is described and illustrated on pages 113-117 of this issue, the low-ceilinged, under-windowed and architecturally uninteresting top floors of three early eighteenth-century houses have been given coherence and spatial interest by the systematic use of standard louvered screens and floor-to-ceiling mirrors, that suggest real or illusory prolongations of the spaces actually in use.

Directing Editors	J. M. Richards Nikolaus Pevsner H. de C. Hastings Hugh Casson
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BOOK REVIEWS

Architects are Persons

ARCHITECTURE USA. By Ian McCallum. The Architectural Press, 63s.

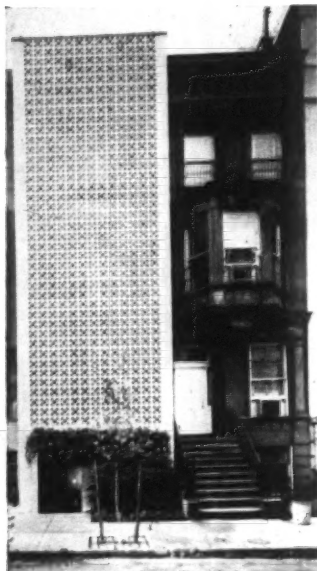
The four presiding geniuses of contemporary American architecture are Walter Gropius, Mies van der Rohe, Frank Lloyd Wright and Le Corbusier. The impact of Gropius and Mies has been direct, through their teaching activities at Harvard and in Chicago. That of Wright is historic and exemplary, through his exact placing on the graph of history as much as through his native Americanness—Gropius and Mies having arrived in the States already middle aged and famous. Le Corbusier imposes himself in America—as in Europe, for that matter—as a prophet, a theorist, and as the creator of a very few paradigmatic constructions which often contradict his prophecies and his theories. All have been necessary and it is the first great merit of Mr. McCallum's book to show why and how precisely they were needed, and when and where their influence was maximally effective. Gropius and Mies (and by implication Le Corbusier) have conditioned, and been conditioned by, Atlantic America; but Wright belongs basically and permanently to Prairie and Pacific America. Hence Gropius and Mies continue to cast backward glances at their European home; and Wright remained a frontiersman and a pioneer, scanning the western horizon from first to last.

Frank Lloyd Wright was unquestionably a great man: his originality as a constructor was remarkable; his fecundity as a proposer of spatial problems was inexhaustible; but as an artist he suffered from an ingrained provinciality, which revealed itself in an embarrassing artiness and crankiness. A man who chooses to live like a patriarch surrounded by flocks and herds and camp followers is not likely to be a heaven sent dispenser of agreeable social intercourse; and his lack of humility and amenity fatally obtrude just where such qualities are most necessary—in his domestic interiors.

But perhaps, after all, it is less necessary to be an original architect than a good one; perhaps the most valuable lesson for an American to remember is that 'less is more'; and perhaps in consequence the Miesian aesthetic is more salutary across the Atlantic than the Frankish one. At all events, in spite of the tremendous stir made by the legend of Frank Lloyd Wright, and his unique power of terrorizing his compatriots, and his own very real gifts as an architect, American architecture in our day owes much less to his precept than might have been expected; and the influence of Gropius and Mies has been very much greater, with results which (to the European eye at least) seem entirely fortunate.

Mr. McCallum is scrupulously fair

to the extravagancies and oddities of the latterday American architectural scene; to the Emmetic contraptions of Bruce Goff and Johansen's bubblegum fantasies and to the more 'legitimate' conic-section exercises of Eero Saarinen. It is true that new techniques prompt new temptations; but reason says that some temptations of the moment should be resisted in the interests of more

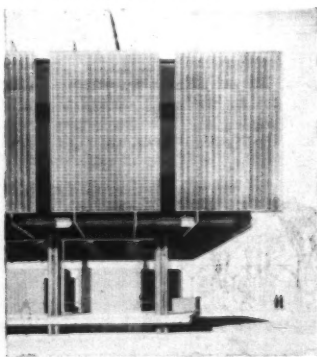


1, Edward Stone's own house in New York with tiled screen.

lasting satisfactions. Such considerations regulate the work of such inventive but non-eccentric architects as Edward Stone (with his filigree screens of tile and metal) and Paul Rudolph (with his 'kind of built-in ivy'); their buildings have a formal elegance and clarity which inspire the confidence that most people instinctively withhold from the gimmicky novelties of a Goff or a Johansen. Nothing palls sooner than quaintness; and in the end masterpieces are always preferred to monsterpieces.

Mr. McCallum's book is excellent because it is well-informed and strongminded and judicious. It accepts the contradictions of the given material, and succeeds in showing impartially how they arose. Significantly, his plan is based upon a biographical grid. Architecture is an art, and architects are persons; 'its starting point has ever been, and ever will be, the individual creative impulse. A true understanding cannot be separated from an understanding of the men who made it, their background, their training,

2, Paul Rudolf's project for the Arts Centre at Wellesley College, Massachusetts, showing the 'kind of built-in ivy' grilles.



the vicissitudes of their careers, their heroes, their outlook, and their inner convictions.' This is therefore a humane and a generous book, perspicacious and lucid and convincing, because focused on concrete objects made by historic persons, not doctrinaire and not tendentious—virtues none too common in modern architectural literature. At the same time, one is reminded that the screens of Stone and Rudolph's built-in ivy have a symbolic relevance to the texture of Mr. McCallum's commentary, and also perhaps to the teasing layout through which the numbering of the pages is discontinuous (and thus the reference in future footnotes will be irksome) and the identification of the particular architect under discussion is complicated by the absence of headlines. But perhaps Mr. McCallum's intention was to constrain the reader to close attention and to discourage skipping; if so, the intention was justified by the closeness of reasoning in the text and by the unvarying aptness of the visual commentary.

Roger Hinks

Living in Sweden

NYA SVENSKA VILLOR (New Swedish Houses). By Erik Thelander. Published by A.B. Byggnadspressen. 1958. Sw. Kr. 24.

This 'survey of Villa Architecture of the 1950's' compiled by the editor of *Byggnadspressen*, includes 54 examples, nine of which are in the category of summer houses. Primarily it is addressed to the would-be owner rather than the architect or builder. With a few distinguished exceptions the collection shows an approach to house building which could be paralleled in many English examples of the same period. Nevertheless, the Swedish work attains a higher standard, to some extent through the more sympathetic conditions under which the Swedish architect seems to work.

A common factor is in an apparent 'looseness' of design, or lack of formal intent. This quality in English work often implies a lack of care, but in Sweden it always seems consciously done—a certain unaffected character emerges which in some cases seems to verge on naïveté. Although regarded as a book of pictures this is an enjoyable production, as a collection of designs it is disappointing. The evocative quality of the pictures is rarely sustained by anything deeper in the buildings, many of which appear to be put together rather than conceived—occurring rather than wished—just as in the Swedish landscape large boulders nonchalantly appear in the middle of cultivated fields.

Asplund apart, the image one has of Swedish architecture is compounded of the achievements of the 'thirties: schools, housing and co-operatives, the office buildings that Grahame Greene typified in 'England made me.' The Hälsingborg exhibition showed that an inspiration quite 'out of the ordinary' survives, yet nothing of this freshness seems to have entered into recent permanent building.

It is interesting to compare this book with the series by Erik Møller on 'Small Danish Houses' (published by Host). While Swedish work seems becalmed on a sea of understatement post-war architecture in Denmark shows an invigorating range of thought and excitement from the elegant pictorialism of Jacobsen to the vigour of Utzon and a number of other younger architects. In fact, 'Scandinavian influence' is now Danish (and to a lesser extent Finnish) rather than Swedish as it was before, and just

after, the war. Significantly, in London since 1945, there have been, I think, four important architecture-design exhibitions from Denmark—not one from Sweden.

Trevor Dannatt

German Baroque

BAROQUE CHURCHES OF CENTRAL EUROPE. By John Bourke. Faber and Faber, 36s.

In spite of its title, the area covered by this very useful book is confined to Southern Germany, Austria and Switzerland; but since this is the first serious work to appear in English on the subject, the author has more than enough material to cope with. And in our welcome we can easily forgive, though we must regret, the absence of any discussion of the even less known glories of Prague as seems promised by the title. It is essentially a guide book, which will be invaluable to anyone contemplating a trip to the two hundred churches described; the more so as hints are given on how to reach them.

The principal architects are also briefly discussed, and the book ends with accounts of some of the artists in stucco and fresco who worked in the churches, a list of some of the more common symbols to be found in them, and a bibliography.

Mr. Bourke has some good points to make and is obviously right to stress the vital part played in these churches by symbolism, and to dismiss the idea that they are merely 'frivolous' and 'irreligious'. But as soon as he leaves the churches themselves and strays into wider questions of history or aesthetics his thinking becomes scrappy and inadequate. The 'healthy vitality and directness' of the Bavarian, however 'refreshing and endearing,' hardly helps to explain his architecture. The absorbing question of how far these churches reflect an aristocratic or a peasant taste is hardly touched. Many other problems are similarly side-tracked by curious and irrelevant excursions into the Renaissance. Even so, every admirer of the German Baroque who has hitherto been handicapped by the lack of any guidance in English will be deeply grateful for this pleasurable and instructive book. Francis Haskell

Radcliffe Bills

THE BUILDING ACCOUNTS OF THE RADCLIFFE CAMERA. By S. G. Gilliam. Clarendon Press for the Oxford Historical Society. W. A. Pantin, General Editor. 42s.

This book, a model of its kind, makes generally available for the first time a valuable record, recently deposited in the Bodleian, of the construction of the Radcliffe Library at Oxford. It is a pleasure to see the source materials of architectural history so helpfully reproduced, accompanied by exactly the sort of historical and visual explanations required—the book lacks only a contents page.

The document in question is a folio volume entitled 'Workmen's Contracts and Bills for building the Radcliffe Library.' This is a complete and exhaustive record of all the work done on, and expenses incurred in, the library from 1737 to 1759, including in some cases estimates from more than one contractor. The accounts range from estimates of tons of lead for the cupola to payments to the City of Oxford for river water; from £220 to Michael Rysbrack for a statue of Dr. Radcliffe to twelve shillings for a fine hat for the porter. There are estimates for plasterer's work from Charles Stanley and Joseph Artari, 'to be done in the best manner to the well

liking of Mr. Gibbs,' and detailed bills from carpenters, masons and plumbers.

This record is printed folio by folio just as it was in the original. It is preceded by a long and valuable introduction by Mr. Gilliam, Librarian of the London Library, recounting the history of the building and its administration from the first idea in Dr. Radcliffe's mind until the Radcliffe Trustees handed over their last vestige of control to the University in 1927. The building record is followed by fifty pages of relevant extracts from the minute books of the Radcliffe Trustees, from 1720 to 1867; and this by thirty pages of a descriptive 'List of Architectural Drawings connected with the Designing and Building of the Radcliffe Camera' compiled by Mr. Pantin. The index is good.

The concluding section consists of 67 half-tone plates, showing drawings (both elevations and plans) and models by both Hawksmore and Gibbs, as well as some fine photographs of interior details as they are today.

Priscilla Metcalf

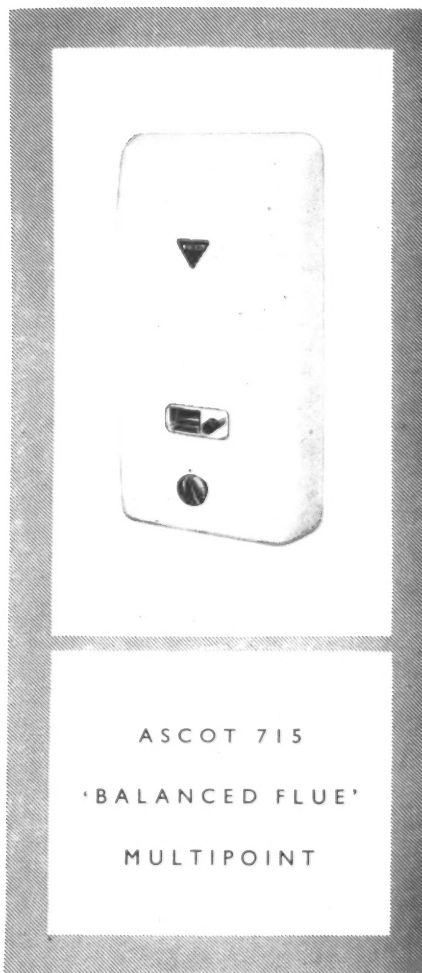
CORRESPONDENCE

Elementarist

To the Editors,

Sirs,—I readily share Dr. Banham's wariness concerning Theo van Doesburg's forced image of the history of contemporary architecture (in his review of my book *The work of G. Rietveld, Architect*, AR Feb. 1959). However, I do not see how he could have read Van Doesburg's vigorous propaganda and then suggest that he promoted the idea that Rietveld is a 'native Dutch genius who profoundly influenced the course of modern German architecture'. The only Dutch 'genius' recognized by V.D. was named Theo van Doesburg. This knowledge is basic to the understanding of Van Doesburg's point of view. At best he acknowledged the quality of some of Rietveld's work which, Van Doesburg implied in his writings, stemmed from his own mind. Contrary to Dr. Banham's statement, no claim was made in my book that Rietveld exerted a 'profound influence on the course of German architecture.' I said in my conclusions that 'Some of Rietveld's early work found their way into the BAUHAUS. It is certain, therefore, that his work played a role in the formation of a BAUHAUS aesthetic.' (p. 147). Both of these statements are true, and they do not add up to the extravagant claim that has been read into them. Dr. Banham's statement that an 'influence is unarguable' is, in effect, another way of saying the same thing. So I see no disagreement on that score.

Concerning the origins of the 'red-blue' chair, certainly it did not evolve from thin air. Earlier elements, 'the Berlage and Penaat tradition of the early twentieth century' (p. 17), laid the foundation. I agree that the English Arts and Crafts tradition should be added as a still earlier progenitor. The quality of the piece is not vitiated, however, by these facts. Its importance stems from the analytic dissection and creative synthesis imposed by Rietveld upon these earlier chairs. Furthermore, the red-blue chair is not a rational and functional design, as is suggested. There is nothing rational about a chair that bruises the ankles and catches the clothes of its victim, as this one does. Its value, which Dr. Banham seems to accept, is in its formal qualities, its mass-space relationship. In this respect the

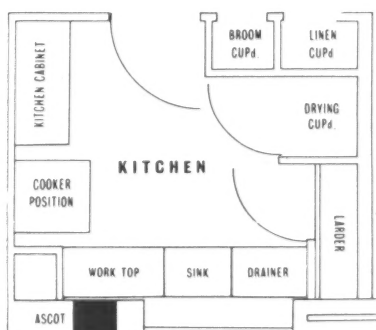


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object is unprecedented in Europe in 1918.

The design of the red-blue chair is particularly relevant for our conflicting evaluation, because it is a spatial and material microcosm of the Schröder House. This chair of 1918, the buffet of 1919, the Amsterdam shop of 1920-1922 and the Berlin chair of 1923 form an articulate chain leading to the house. If, in 1918, Rietveld had materialized his ideas of mass and space, it seems reasonable to assume that he was able to work out his own destiny in regard to the house. I do not claim, however, that he worked in a vacuum; and my study acknowledges the aid of other work, specifically the De Stijl projects of 1923 (p. 69). The facts, however, make it clear that the Dutch in general and Rietveld in particular evolved their own artistic destiny until at least the middle of the 1920's.

As for the 1925 Kiesler design, I did not know that it was first done in 1924. Assuming, however, that it was of the same year as the Schröder House, the historical importance of the house is not thereby affected. Maybe the Kiesler design came out of the Berlin group, but the Rietveld work certainly did not. Had the Kiesler piece pre-dated the 1918 chair, is it not an enlarged red-blue chair? It would be historically significant and would tend to support your claim. The chair, however, is a model of both the Rietveld and Kiesler works of 1924; so an hypothesis of a German source for the house as late as 1923 or 1924 is not in accord with the facts.

Dr. Banham's description of the Berlin chair (so named, incidentally, by Rietveld and his friends, not by me) as 'arty and unfunctionally asymmetrical' in contrast to the 'elegant rationalism' of the red-blue chair, does not stand up. Criticizing the Berlin chair from a functional point of view has little meaning; it is like criticizing a Mondrian painting for its inability to communicate a recognizable visual image. The Berlin chair, like the red-blue, was conceived primarily as an aesthetic exercise in form and space. It has, nevertheless, a functional rationale too; it was designed as a writing chair, done in two models, left and right-hand. I admit that most people have two arms, but you must acknowledge the fact that they usually write with only one of them. This is a common type of chair, found to-day in schools throughout the world.

Furthermore, the significance of the chair's asymmetry should be apparent when one remembers that the asymmetrical equipoise of our contemporary visual vocabulary came into being around this time, Mondrian around 1921, Van Doesburg and Van Eesteren in their projects of 1923, and Rietveld in his chair of 1923. The asymmetrical, planar organization of the chair is one of the essential characteristics of the Schröder House, which followed a year after the chair. And if one compares these Dutch examples cited above with their German counterparts of the same year (see, for example, *Staatliches Bauhaus Weimar*: 1919-1923, Weimar and München, 1923) one will see that this important compositional development occurred in Holland between 1920 and 1923.

Yours, etc.,
THEODORE M. BROWN.

Reyner Banham replies:—

But Professor Brown does make sweeping claims on behalf of the Rietveld influence. On pages 72 and 73 he confronts the Schröder House with

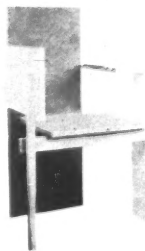
Mies's Farnsworth House, the Bauhaus, Le Corbusier's Villa Shodhan, and Oud's terrace at Weissenhof, and says 'The architectural ideas embodied in the Schröder House were of extreme, perhaps decisive, importance in the formation of European architecture.' This, in the context of the book, or of Professor Brown's remarks on 'asymmetrical equipoise' in his letter, can only be read as a large claim to influence. But if his rather provincial and purely Dutch account of the ancestry of asymmetrical equipoise is extended to include the total history of this style of composition, by the inclusion, e.g. of Malevitch 1915, Arp 1917, Rodchenko 1918, Tatlin 1918, Lissitzky 1920, Moholy-Nagy 1921, then the fact that Rietveld's work has characteristics in common with German work done at the same time, begins to take on a different meaning, especially when such German survivors of the period as I have been able to consult, insist that the Russian influence was everywhere far stronger than the Dutch.

Eye-witness accounts, and the pages of *de Stijl* itself, bear witness to the mastery of the Russian influence, personified by Lissitzky, over *de Stijl* at the Dusseldorf Congress of Progressive Artists in 1922. The Russianization (or, at least, Berlinization) of *de Stijl* magazine had begun as early as 1921, almost



3, red-blue chair of Rietveld.

exactly half-way between the Red-Blue chair of Rietveld, and his Berlin chair. In this case it seems advisable (not to put it more strongly) to assess very carefully the manifest difference between the Red-Blue chair's attempt at a rational discrimination between the functions of different parts of the chair-structure (I did not say that this chair was either reasonable or comfortable) and the Berlin chair's



4, Berlin chair.

attempt to re-synthesize these functions according to an aesthetic that visibly was not present in the Red-Blue. Similarly, it becomes necessary to enquire whether the employment of virtually the same aesthetic by both Kiesler and Rietveld in 1924 may not be due to their both drawing independently on the same Lissitzkian inspiration as the eccentric Berlin chair.

MARGINALIA

PMS at 73

Brian Housden's use of the *Architectural Association Journal* as a vehicle for studies of the pioneer phase of modern British architecture reached a salutary stage in the issue of January 1959, when he gathered together a number of the papers of P. Morton Shand. Housden speaks of Shand's virtue as a writer lying in his ability to speak of Architecture when others have had to speak of style—salutary, for a start, because Shand was not an architect. Indeed, he was the first of a succession of non-architects who have tried to make sense of the history of modern architecture, preceding both Pevsner and Giedion in the field. His study of the Pioneer and Master phases appeared, like most of his other significant writings, in the *ARCHITECTURAL REVIEW*, under the title *Scenario for a Human Drama*. The seven articles of *Scenario* originally appeared in a somewhat idiosyncratic order, going backwards in time to van de Velde and Wagner, sideways to Mackintosh, and then coming forward again. One wonders what, if anything, has been gained by putting them in a different idiosyncratic order, and providing—in some cases—different illustrations to go with them (though not as different as for the articles on steel and concrete, where Housden's pictures belong to a different world of historical sophistication).

These points of scholarly method aside, this publication is a useful and valuable one, salutary again in the questions it raises concerning the effect Morton Shand may have had on other, later, historians. Not only was he the first, he is also the only one who is of the generation of the Masters, born in 1886. His European background is the background of Mendelsohn and Le Corbusier (both a year younger than he), Mies van der Rohe (born the same year) and Gropius (three years his senior) and his views must, therefore, command a peculiar respect.

Industrial Archaeology

Ten years ago it would have been unthinkable for archaeologists to concern themselves about the nineteenth century; it is a sign how times have changed that not only are many of them doing so but the Council for British Archaeology is organizing a one-day conference on December 12 to stimulate interest in the archaeology of the Industrial Revolution, after which the Council hopes to draw up a programme of planned recording and research.

The conference will be held at the London School of Hygiene and Tropical Medicine. There will be brief papers on recent pieces of research (one by M. Berrill on the seventeenth-century Stamford canal and one by Prof. A. W. Shempton on the structure of early cotton mills) and on relevant methods (papers on problems of recording industrial buildings), by Dr. Peter Eden, and on the Ordnance Survey in relation to the recording of industrial archaeology, by C. W. Phillips. Other speakers will be M. M. Rix, J. M. Richards and M. W. Barley.

Inquiries about the conference should be addressed to the Assistant Secretary of the Council for British Archaeology, 10 Bolton Gardens, London, S.W.5.

INTELLIGENCE

Ian McCallum is retiring from his position of Executive Editor of

THE ARCHITECTURAL REVIEW so that he may become Director of the first American Museum in Europe now being established at Bath and J. M. Richards will resume his earlier job of Executive Editor as well as remaining a member of the editorial board. Reyner Banham joins the full-time staff as assistant editor.

RIBA Secretary

C. D. Spragg retired from the Secretaryship of the RIBA on July 31. His successor is Gordon Ricketts.

Commonwealth Issues

Next month's issue of the *REVIEW* will be the first of two special issues devoted to giving a picture of recent architectural achievements in the British Commonwealth. It will deal with the countries in the temperate zones, northern and southern; that is, the four large Dominions: Canada, South Africa, Australia and New Zealand.

The second Commonwealth issue, to be published next year, will deal with countries in the torrid zones—in West and East Africa, the West Indies and the Far East.

ACKNOWLEDGMENTS

The colour block on page 82 appears by courtesy of Messrs. Gollins, Melvin, Ward and Partners. COVER, Toomey Arphot, Eric de Maré. MARGINALIA, page 75: 5, Sperry's. FRONTISPIECE, page 76: SNOOK. SEAMEN'S HOME AT ERITH, pages 81-85: Henk Snoek. REVERBERATORS, pages 86-99: frontispiece, Conti Press; 1, 35, Dr. Salchow; 2, 8, G. E. Kidder Smith; 3, 6, Robert Hauser; 4, 5, 12, 13, 14, Foto Kessler; 7, 15, 17, 18, Ludwig Windstosser; 9, P. F. Schneider; 10, 11, Hugo Schmölz; 16, International Lighting Review; 20, Albrecht Brugger; 22-24, 26-30, Artur Pfau; 25, Foto Woscido; 32, 34, Eberhard Troeger; 33, L'architettura; 36, H. Heidersberger. ART NOUVEAU IN ESSEX, pages 100-103: frontispiece, Eric de Maré. SCIENCE LABORATORIES AT BRYANSTON SCHOOL, pages 105-106: Galwey Arphot. STUDIO AT CHARTERHOUSE SCHOOL, pages 107-108: Galwey Arphot. HOSPITAL AT SAO PAULO, pages 109-112: P. C. Scheier. OFFICES IN QUEEN ANNE'S GATE, pages 113-117: 1-3, 5-9, 11, 12, Eric de Maré; 4, 10, 13, Toomey Arphot. DESIGN REVIEW, page 118: Galwey Arphot. AN ENGLISH LE ROY, pages 119-120: titlepiece, 1, Colonial Williamsburg Photograph, Chiles Larson; 2, 3, the collections of the Library of Congress. CURRENT ARCHITECTURE, pages 121-124: 1-4, E. G. Patience; 5, 6, Pamela J. Barnsley; 8, 9, Colin Westwood. WORLD, pages 125-130: 5, Marc Neuhof, Arts and Architecture; 7, Jules Schick; 8, Lawrence S. Williams; 10, C. and E. Photography; 11, Andrew Reid; 13, Studio St. Ives; 14-17, Arkitektur; 18, 19, Foto Porta; 20-23, Casabella; 24, 25, Bouw; 26-28, Bauen-Wohnen; 32, Robert Bolles; 33-35, Architectural Record; 36-38, L'architettura; 39, 40, Domus; 41, Panda. MISCELLANY, pages 131-136: Exhibitions, 1, Marlborough Fine Art Gallery; 6, James Mortimer; 8, King's College, Newcastle. Popular Art, 3, 5, Else Thosttrup. Counter Attack, Browne Arphot. SKILL, pages 137-139: 1, Peter H. Jones; 3, A. D. Marsden; 4, Stewart Bale; 7, Brightman and Gull; 9, W. Ralston. THE INDUSTRY, pages 140-142: 1, Troughton and Young; 2, Coventry Evening Telegraph; 3, A. E. L. Marsh and Associates; 4, Jean Kendall; 5, 6, General Electric Co.



Now that the walls have nearly reached their full height, Coventry Cathedral begins to assume an air of monumentality appropriate to its purpose and location. This recent view of the (liturgical) western end of Basil Spence's partly finished building is taken from the north-east. On the right can be seen the chequered pattern of the tall baptistery window, to be filled with stained glass by John Piper and Patrick Reyntiens. On the left is the spire of the bombed medieval cathedral.

FUTURIST MANIFESTO

The publication of Einstein's first important papers on the mathematics of physics in 1905 is commonly taken to mark the beginning of the real life of the Twentieth Century, but as far as the visual arts are concerned, the appearance of the Foundation Manifesto of Futurism on February 20, 1909, was an event of more immediate—and more lasting—consequence. In honour of its half-century, the first complete English translation appears on the pages that follow.

It is a document of extreme polemical violence; by borrowing the style and typography of politics it set the tone of aesthetic disputation for fifty years. It envisaged a complete revision of the artist's relationship with the world, rejecting the past and cleaving enthusiastically to the mechanized present; in history-crusted Italy this was a necessity of life to a younger generation aspiring to a place in International culture—the manifesto's author, Filippo Tomaso Marinetti was thirty-two, had been born in Egypt, and largely educated in Paris.

It was the first of many manifestos issued in the ensuing five years by the Movimento Futurista, dealing with everything from philosophy to feminism. Most of these yellowing leaflets with their brutal typography are read only by inquirers into the philosophical origins of Fascism, but the handful that deal directly with the arts are as alive now as they ever were, more alive indeed than they were ten years ago. In them, Boccioni envisaged collage-sculpture, mobiles, action-painting; Russolo fore-heard musique concrète, Sant'Elia laid down the programme for the architecture of the Twenties (and the Fifties), and Marinetti evoked the Geometrical and Mathematical Splendour of the Machine Age.

But all these were the offspring of the foundation document; none could have been conceived until Marinetti had dropped the portcullis on the past, and opened the airlock to the future. In Boccioni's words, the age of the great mechanized personalities had begun,

and the precise point of its beginning is documented in the first, autobiographical, part of the manifesto; what Marinetti and his friends intended to do about the new age is set out in tabular form in the second part (the only part of the document that is at all well known in English), and how they felt about their new, exposed position is set out in the third and last section. This, too, was prophetic, but in a personal sense, since they did indeed prove to be expendable men, and their movement after 1918 became a comic-opera adjunct to Mussolini. But as we look back from the threshold of the space age, we see the Foundation Manifesto standing up, the farthest familiar landmark in the fog of history, the first point in which we can recognize an image of our own Machine Age attitudes.

Reyner Banham

Life in the Casa Marinetti about 1908—the orientalism was real, the lamps, etc., had been brought back from Egypt when the family returned to Italy.

The street in front was the Via del Senato, the ancient canal was the Naviglio, supposedly a work of Leonardo. Between the two, Marinetti had a grandstand view of an old technology being killed by a new one.

The style, as well as the sentiment, of this passage anticipates the inflamed automobilism of Kerouac's *On the Road*.

Marinetti's, presumably, was the sixty-horse Fiat that turns up in his later writings. Ten years earlier, of course, this whole passage would have been inconceivable.

A jibe at D'Annunzio, whom the Futurists hated; the reference could be to any of a number of his more Decadent novels.

We had been astir all night, my friends and I, under eastern lamps of copper filigree, star-dusted like our souls, for they, too, blazed with the sealed lightning of electric hearts. We had trampled out our ancestral sloth at length on rich oriental carpets, disputing to the uttermost limits of logic and blackening quires of paper with our frenzied scribblings.

A great pride swelled in our chests, for we felt ourselves alone in that hour, alone, awake and afoot, like proud beacons or forward guardposts against the hostile armies of the stars, spying out their celestial encampments. Alone with the stokers bustling about the satanic furnaces of great ships, alone with the black phantoms that fossick in the red-hot bellies of locomotives launched on their mad journeys, alone with the gesturing drunks flapping uncertainly along the walls of the city.

But suddenly we all jumped at the mighty rumble of a double-deck tram, rocking past in a blaze of coloured lights, like a village festival that the flooded Po tears without warning from its banks and sweeps through rapids and gorges, down to the sea.

Then the silence deepened again. Yet, as we listened to the ancient canal muttering its feeble prayers, and the creaking bones of the dying, ivy-bearded palaces, we suddenly heard beneath the window the hungry roar of automobiles.

Let's go, I said, let's go, fellers, let's get away. Mythology and Mystic Idealism are licked at last. We're in at the birth of centaurs, we shall see the first angels fly. We must rattle the doors of life, test the hinges and bolts. Let's go. There on the earth is the first dawn of history, and there's nothing to match the red sword of the sun, slashing for the first time through the shadows of a thousand years.

We came up to the three snorting beasts, to lay amorous hands on their scorching breasts. I stretched myself on my machine like a corpse on its bier, but revived at once under the steering wheel, a guillotine threatening my stomach.

The wild sweep of madness whipped us out of ourselves and chased us through streets as rugged and deep as torrent-beds. Here and there a sick light in a window taught us to mistrust the fallible mathematics of our used-up eyes.

I cried, The scent, the scent alone is enough to guide these beasts.

And we, like young lions, pursued Death with its black belt dotted with pallid crosses, running on under the vast violet sky, alive and pulsating.

But ours was no ideal love lifting her sublime face to the clouds, nor a cruel queen to whom we offered our bodies twisted like Byzantine rings. Nothing, this wish to die, but the desire to be freed at last from the load of our courage.

And we sped on, flattening watch-dogs on doorsteps, curling them up under our flying tyres like collars under the flat-iron. Domesticated Death came up with me at every corner, stretching out an ingratiating paw, or flattening on the ground with a chatter of teeth, making velvet, caressing eyes at me from every puddle.

Let's break out of the stuffy husk of wisdom and throw ourselves like pride-ripened fruit into the big sharp mouth of the wind. . . . Let's just give ourselves up to the unknown, not out of desperation, for sure, but to plumb the deep wells of the Absurd. . . .

The words were hardly out of my mouth before I snapped the car round in its

own length, with the same mad intoxication as a dog that tries to bite its own tail, and there—unexpectedly—were two cyclists coming towards me, confusing me by wobbling about like two equally convincing but contradictory arguments. Their stupid dilemma was staged right in my line of travel . . . what a pest . . . auff . . . I pulled up short and, to my disgust, shot wheels-in-air into the ditch. Maternal ditch! brimming with muddy water. Fair factory drain! I gulped down your nourishing sludge, and remembered the blessed black breasts of my old Sudanese nurse. And when I came up—filthy and stinking—from under the capsized machine, I felt the hot iron of delicious joy transfix my heart.

A crowd of anglers and gouty naturalists swarmed around the spectacle. With patient, loving care they rigged a tall derrick and iron grapnels, to haul out the car like a huge dogfish. It came up slowly, abandoning to the depths, like shed scales, its massive bodywork of good sense, and its soft upholstery of convenience. I thought it was dead, my beautiful dogfish, but one touch from me was enough to bring it back to life, and there it was, revived and going again on its powerful fins.

And so, face covered with good factory effluent—plastered with swarf, senseless sweat and celestial soot—we, bruised, in splints, but unafraid we declare our prime intentions to the live men of the world

1. We will sing the love of danger, the habits of energy and temerity.
2. Courage, audacity, revolt, shall be the essential elements of our poetry.
3. Right down to the present, poetry has exalted moody immobility, extasy and repose. We shall exalt aggressive movement, feverish insomnia, life at the double, with somersaults, slaps and punches.
4. We assert that the magnificence of the world has been enriched by a new beauty, the beauty of speed. A racing car with its bonnet draped in enormous pipes like fire-spitting serpents . . . a roaring racing car that goes like a machine gun, is more beautiful than the Winged Victory of Samothrace.
5. We will hymn the man at the wheel, whose ideal axis passes through the centre of the earth, that is itself in full flight on the circuit of its orbit.
6. The poet must expend himself with ardour, ostentation and generosity to excite the fervour of all primitive elements.
7. There is no beauty save in struggle. No work that lacks aggressive character can be a masterpiece. Poetry must be conceived as an assault on unknown powers, to make them bow down before man.
8. We are on the highest promontory of the centuries—why must we look back when we are about to break through the mysterious gates of the impossible. We live already in the absolute, since we have created eternal universal velocity.
9. We will glorify war, the only hygiene of the world—militarism, patriotism, the destructive gestures of anarchists, the great concepts for which men die, contempt of women.
10. We will destroy the museums, libraries and academies of every kind, and will combat moralism, feminism and all vile opportunist utilitarianism.
11. We will sing the great crowds stirred by work, pleasure or revolt; we will sing the multicoloured, many-voiced seas of revolt that surge through great modern capital cities; we will sing the shimmering nocturnal fever of arsenals and shipyards blazing with electric moons; voracious stations devouring smoking snakes; factories hung from the clouds by the twisted filaments of their smoke; bridges like giant gymnasts leaping rivers that glisten like knife-blades in the sun; adventurous steamers snuffing the horizon; deep-chested locomotives pawing the ground with their wheels, like huge steel steeds bridled with steam-pipes; the slithering flight of aircraft whose propellers flutter in the wind like banners, with the sound of the applause of an enthusiastic crowd.

It is from Italy that we launch on the world our manifesto of disruptive and incendiary violence with which this day we inaugurate Futurism, because we

Query: where had they come from if they were so unexpected?

River Jordan, how you've changed!

It must have been Sunday morning before Mass.

The car thus became a racing machine—and a symbol of the artist sloughing off conventional culture and stripping for action.

Anti-D'Annunzio again.

Live in Einsteinian space!

This could come from Bergson, a largely forgotten influence on the intellectual wild-life of the early century.

These were the seeds of Fascism, obviously.

Day Lewis, Auden and Spender were later to mine out this lode of mechanistic symbolism right down to the barren bed-rock, but Marinetti was the prospector who staked the first claim on it.

Most of them spoke German, of course, and were thus to

be regarded as part of the Austrian occupation. Futurism was a patriotic movement, which thus makes it all the odder that the Manifesto should first have appeared in French.

It had not yet been stolen, but the modernists already had their sights on it as a cult-object of reaction, like the Victory of Samothrace.

The Augean labours of Hercules Marinetti.

Alas for prophecy, it proved to be none other than D'Annunzio, in his last desperate throw, the motor-boat raid on Fiume, who proved the Futurists expendable, and finished them at forty, and he was almost sixty!

Antoine de Saint-Exupéry must have passed this way later; a similar sense of the terrestrial miseries of aviation informs much of his early work.

The proto-Fascist strain again, but it was not peculiar to Italy—the Vorticist connection in England took it up with enthusiasm a few years later.

wish to liberate our country from its foetid gangrenes of professors, archaeologists, cicerones and antiquaries.

For too long now Italy has been a Caledonian market—we will liberate her from the innumerable museums that cover the land like uncounted cemeteries.

Museums, cemeteries . . . truly alike in the sinister promiscuity of so many bodies who never knew one another. Museums: public dormitories where for ever sleep the hated and forgotten. Museums: stupid shambles of painters and sculptors slashing at one another with colour and line for disputed wall-space.

That we should make pilgrimage to them once a year, as to the Camposanto on All Souls' Day . . . that we concede. That on one day a year a garland be laid in homage before the Mona Lisa . . . that, too, we allow. But we cannot accept that we should parade our miseries daily through the museums, nor our fragile courage, nor our morbid anxieties. Why poison ourselves with dry rot?

For what can you see in an old picture anyhow, but the laborious contortions of the artist trying to break through the insurmountable barriers that stood against his desire to give full expression to his dream . . . to admire an old picture is to seal up our sensibilities in a funerary urn, instead of projecting them in violent acts of creation and action.

Will you then waste all your best powers on this everlasting and useless admiration of the past, from which you can only emerge exhausted, diminished and dishonoured.

In truth I say that the daily frequentation of museums, libraries and academies (cemeteries of wasted energy, calvaries of crucified dreams, registries of frustrated adventures) all this is even more damaging for artists than the excessively sheltered upbringing forced by parents on young men intoxicated by their talents and their ambitions. For the dying, the infirm, the prisoners, all right . . . the admirable past may be the balm of their ills, since the future is barred to them. But we will hear no more of it, we Futurists young and strong.

Let them come, the cheerful firebugs with their scorched fingers. There! There! and up there! set fire to the stack rooms of the libraries . . . divert canals to flood out the museums, for the joy of seeing all the glorious old canvases floating away on the current, torn and discoloured by the flood. Picks! Hammers! Hatchets! Smash, smash the venerated cities of art.

The oldest among us is thirty years old, and we have, therefore, at least ten years to finish our task. When we are forty, younger and fitter men will chuck us in the wastepaper basket like old manuscripts. That's how we'd like it.

We shall see them coming afar off, our successors, dancing around to the winged cadences of their first songs, reaching out predatory claws, dog-like sniffing round the doors of the academies, for the ripe scent of our putrefying minds, already promised to the catacombs of the libraries.

But we shall not be there—they will finally catch up with us one winter night in open country, in some miserable hangar with the rain drumming monotonously on its roof, squatting fearfully by our aeroplanes in the act of warming our hands by the fitful fire of our early works, flaring up under the fanning of our imagery. They will crowd round us panting with anguish and contempt, and all, exasperated by our proud, unstanachable daring, will rush to kill us, driven by hatred made more implacable by the extent to which their hearts are filled with love and admiration for us.

Strong, clean injustice will blaze from their eyes—Art, in fact, can no longer be anything but violence, cruelty and injustice.

The eldest among us is thirty years old, but we have already squandered treasures—treasures of strength, of love, audacity, astuteness and good will; we have thrown them away in impatient haste, without counting, without hesitating, without pause, and at the tops of our voices. Watch out! We aren't finished yet. There is no weariness in our hearts, nourished as we are on fire, hatred and speed. We astonish you? That's logical, if you can't remember ever having lived. Standing on the summit of the world we hurl our defiance once more at the stars.

You have objections? Thank you . . . and again Thank you. . . . We know them . . . we understand. . . . Our fine lying intelligence tells us that we are the summation and continuation of our ancestors. . . . Or something. . . . But suppose it's true. . . . Who wants it? . . . We don't wish to know that . . . and woe betide anyone who uses those dirty words on us.

Heads up!

Standing on the summit of the world, we hurl once more our defiance at the stars.

SEAMEN'S HOME AT ERITH, KENT

ARCHITECTS

GOLLINS, MELVIN, WARD AND PARTNERS

assistants

A. J. Hoffman, H. Prime, P. Guest and H. J. MacMaster



1. the main entrance
and four storey block
from the north-west.

SEAMEN'S HOME AT ERITH

The Royal Alfred Merchant Seamen Society's hostel originally occupied Belvedere House, a pioneer Greek Revival mansion designed by James "Athenian" Stuart in the mid-seventeen-seventies. The house, however, is unsatisfactory for the hostel's specialised purposes, and the new building has been erected in its grounds—the fate of the old building remains uncertain at present. The site of the new block, though not as good as that of the old house, nevertheless commands a wide view of the Thames estuary from parkland well grown with mature trees which have been preserved.

The hostel has to accommodate eighty retired merchant-seamen who are in walking trim, and fifty infirm ones who are not. The former are housed in individual cabins on the upper three floors of the Main Home (which also contains a flat for the "Mate" or warden), the latter in the Infirm Home, a single storey structure with two main, sixteen-bed wards, and six smaller wards; both the dormitory block of the Main Home and the large wards of the Infirm Home are oriented north-south. The rest of the accommodation, which is mostly at ground floor level, includes public rooms—mostly for recreation—library, dining room, a covered promenade.



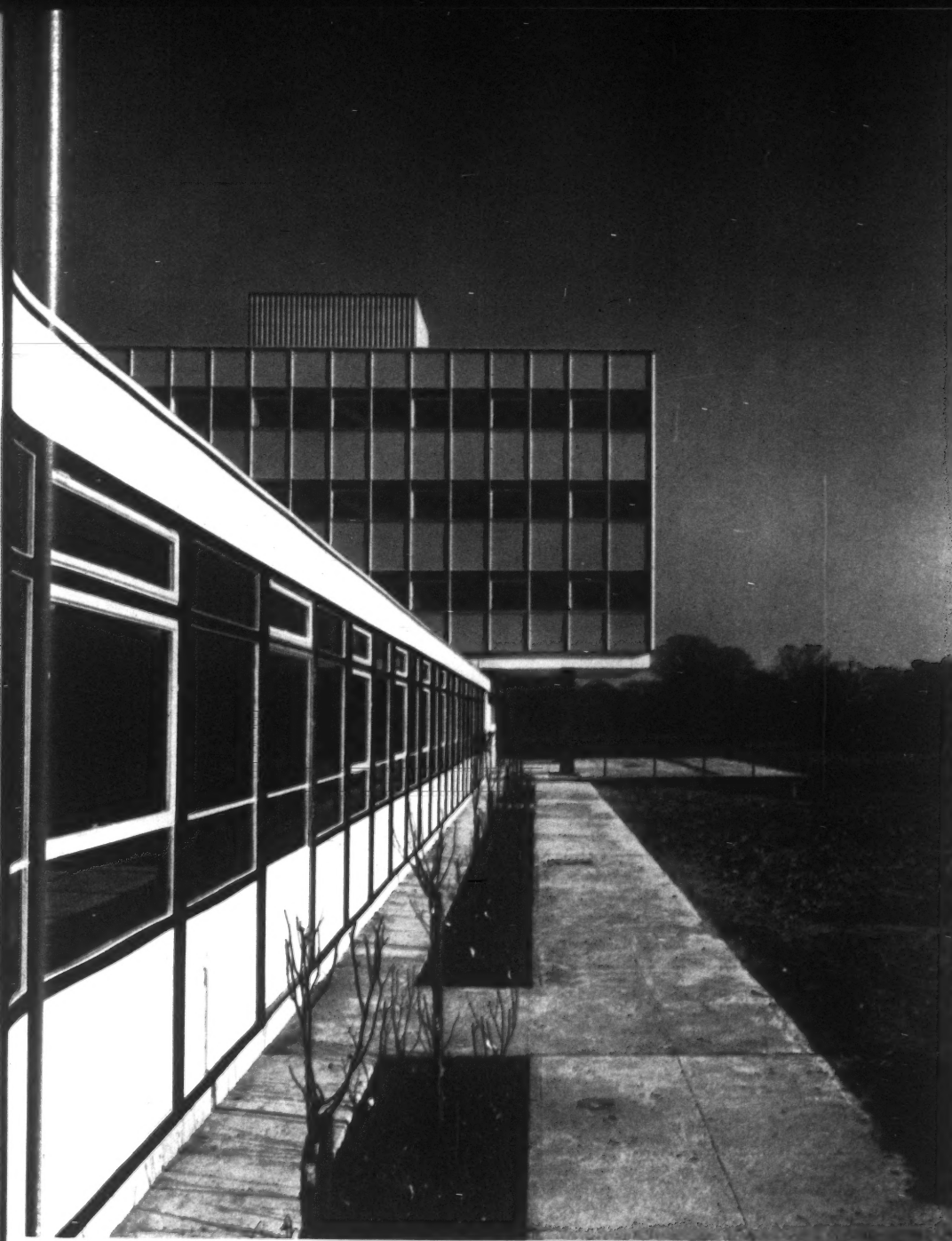
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3

2 and 3, the home from the south-east, with the single storey common room wing on the left. The four storey block in the

centre has administration offices on the ground floor and seamen's cabins, above; the single storey on the right is the infirm wing.

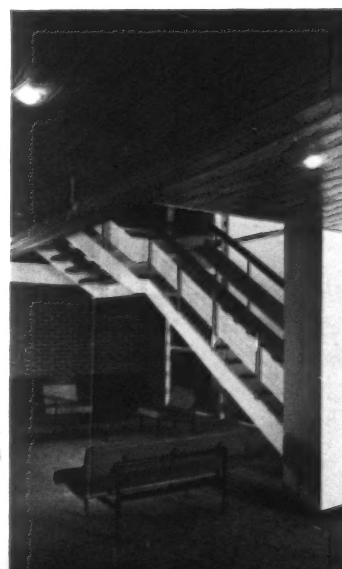


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4. the four storey block
from the west with the
single storey common
room in the foreground.
5. general view from the
south-west.
6. the entrance hall and
main staircase.



6



7, the approach to the four storey block, with the single storey House Governor's flat on the right.

SEAMEN'S HOME AT ERITH

workshops, offices, as well as kitchens and stores, staff and nurses' rooms and the Governor's bungalow.

The cabin floors of the Main Home are of reinforced concrete cross-wall construction, each "cell" containing two cabins, and the cross-wall loads are carried by square R/C columns on the ground floor, an arrangement which gives greater clear space and flexibility of plan for the public rooms. The long flank walls of the upper floors are clad in metal curtain wall, with white glass spandrels in front of 4in. R/C firebreaks. The single storey parts have partially exposed light steel framing, or load-bearing brick walls. The specialised nature of the buildings is reflected in the mechanical equipment, which includes a lift large enough to admit a patient in bed, and no fewer than five different kinds of hot-water heating—floor coils in the Infirmary Home, radiators in staff quarters, skirting convectors in the cabins, radiant wall panels in wards and recreation rooms and a heated ceiling over the promenade.



first floor plan



8, distant view from the south.

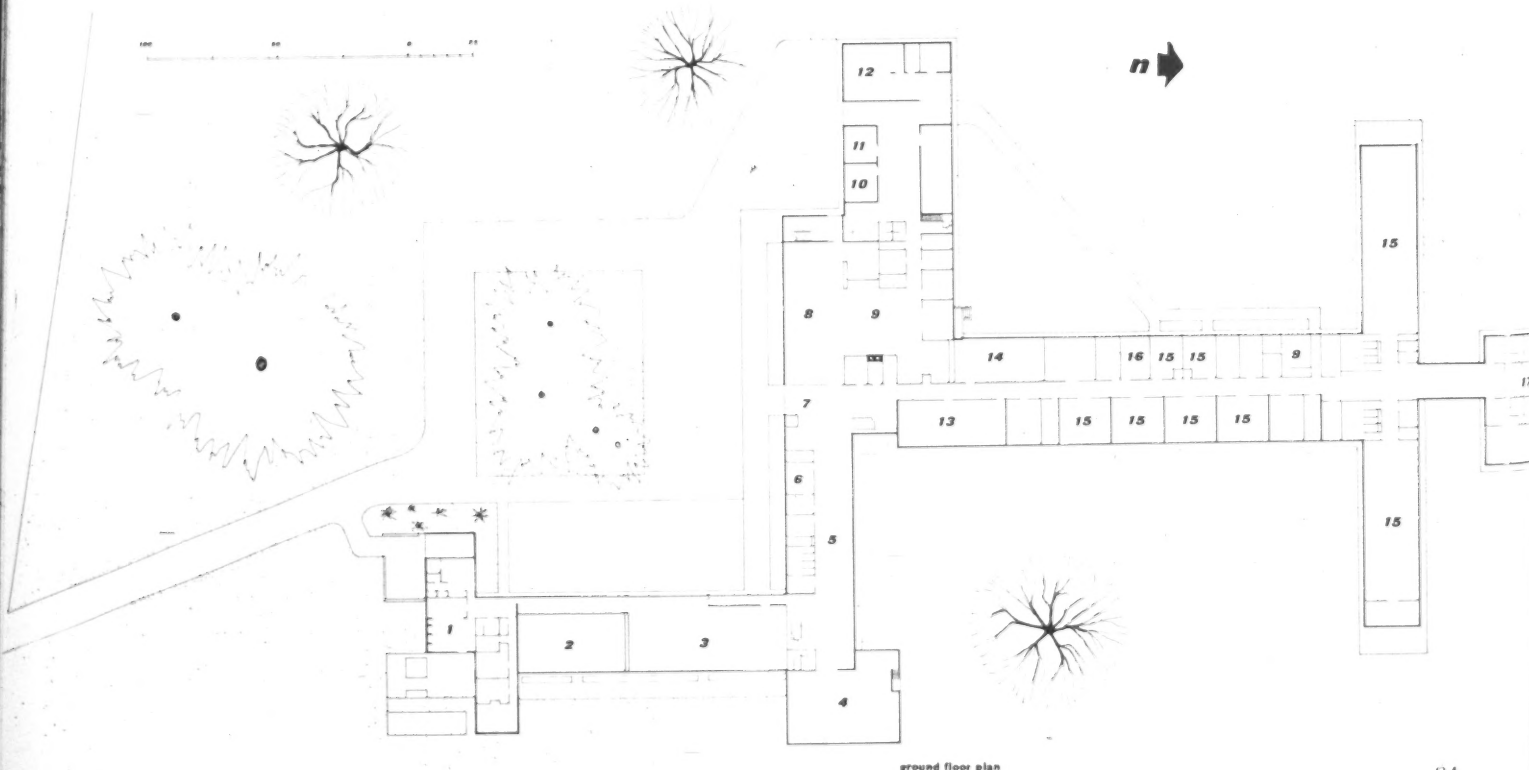
key

Ground floor
1. governor's house
2. billiards room
3. library
4. podium
5. promenade

6. governor's office
7. entrance hall
8. main dining hall
9. kitchen
10. painter's shop
11. carpenter's shop
12. garage
13. lounge

14. infirm section dining room
15. wards
16. surgery
17. nursing staff accommodation
First floor
1. cabins
2. mate's flat

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ground floor plan

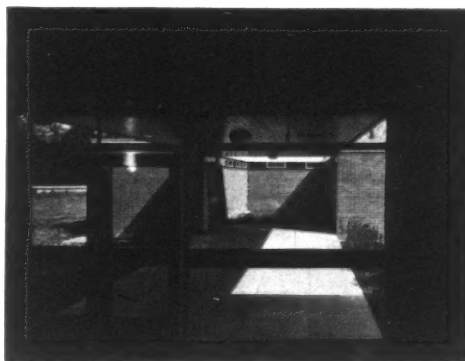


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9. the entrance hall and main staircase, with the lift on the left.

10. looking along the covered way from the infirm wing to the nurses' bedroom block.

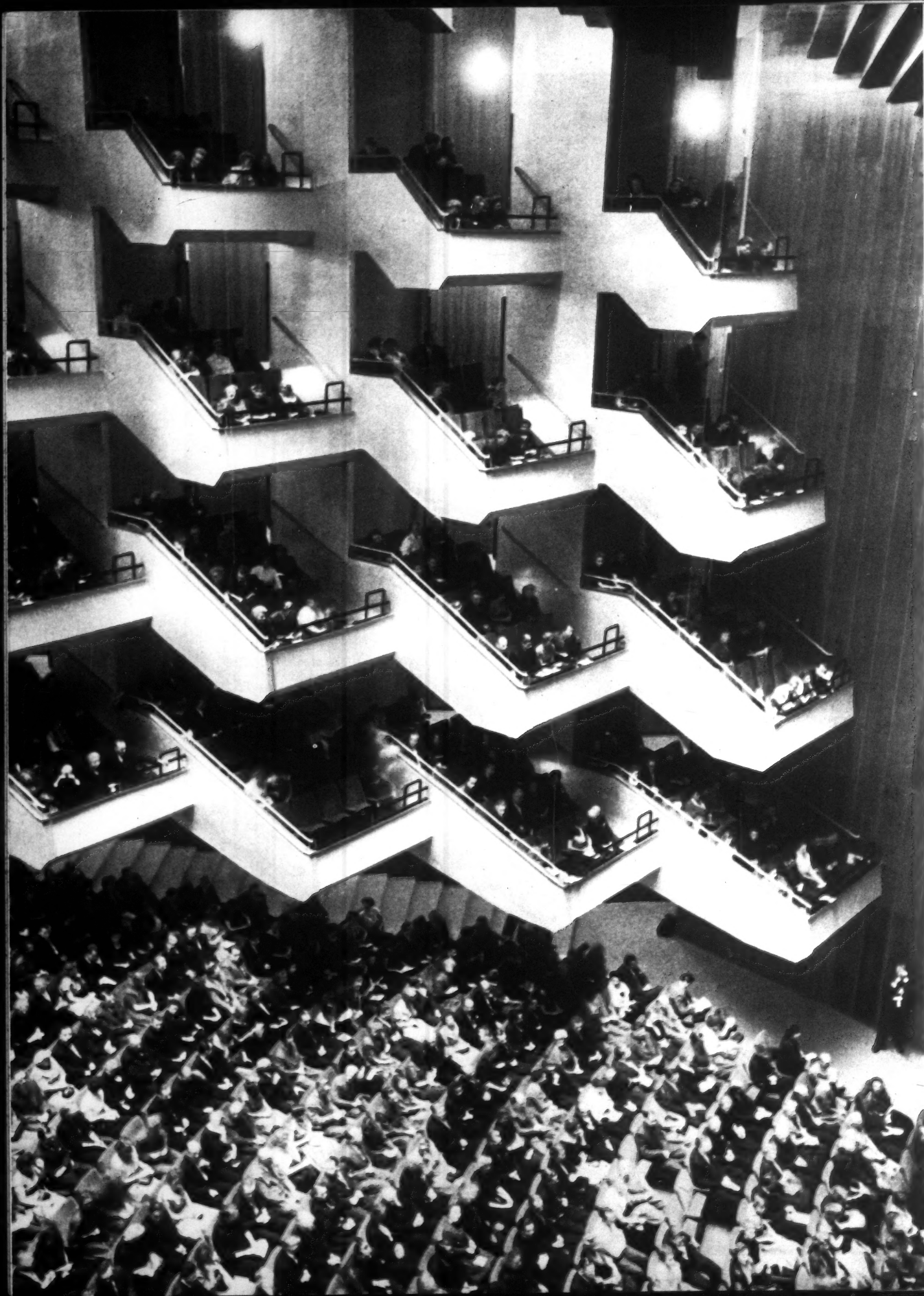
11. the ground floor corridor promenade in the four storey block, with administration room on the right.




10

11





'A cello sobs, the symphony begins;
A fever flutters in the violins;
A thousand ear-rings tremble in the dark. . .'
Frederick Prokosch's evocation of the hushed
moment at the beginning of a concert is a clue to
sense of formal social display that is expressed
in many new German auditoria, such as
the Hamburg State Opera, opposite . But
this is only one of the psychological and
physiological factors whose influence has helped
the post-war German concert-halls, discussed in
the article that begins below, to make a complete
break with accepted ideas on auditorium design.

David Shoesmith & Michel Santiago

REVERBERATORS

POST-WAR GERMAN CONCERT HALLS AND OPERA HOUSES

When the history of Modern Architecture in the last thirty years is reviewed we observe the existence of a number of privileged forms that were permitted to break the rectangular regularity of Functionalist architecture and CIAM planning. Outstanding among them were the forms of auditoria—how often was the only relief from the dead-beat regularity of some ruthless planning grid to be found in the fan, cheese-wedge or even doughnut form of something labelled, hopefully, *concert hall* or *civic theatre*? Yet did these forms really justify their privileged position in the Functionalist canon?

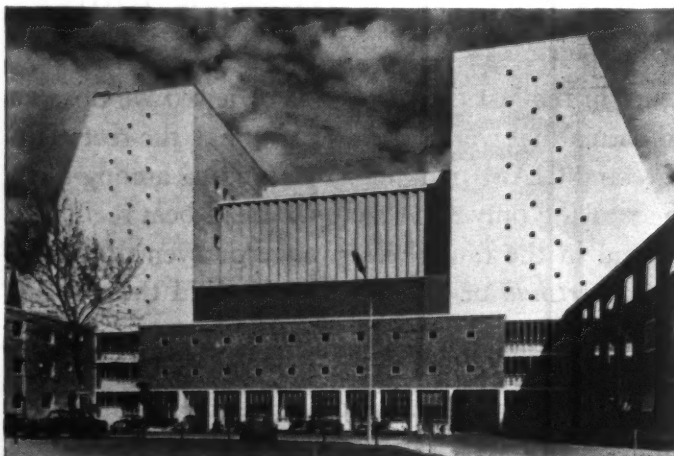
German post-war experience in the design of halls for the hearing of music suggests they did not. They were ideal shapes, designed for the hearing of ideal sounds, emanating from ideal point-sources, by ideal monaural listeners. Furthermore, like so many ideal shapes they were also conceived as serving many purposes, and were not specifically adapted to any special kind of hearing. But hearing music is a specialized activity, in which the sense of sight also plays a large part. It is also an un-ideal activity, in which sound emanates from many—perhaps a hundred—sources, pointed in various directions, and thus reaches the ear under varying conditions. Again, different kinds of music demand different acoustical conditions. Considering the matter all round, it appears that a truly functional approach to the design of halls for the hearing of music is unlikely to produce either the generalized, or the idealized, forms of the Functionalist period.

The work done in Germany over the last few years in this field is extremely instructive for two reasons. Firstly, because it has really been concentrated into the last few years—all the examples discussed in this article are more recent than the Festival Hall in London, and thus constitute an unusually compact body of work in a building type whose earlier

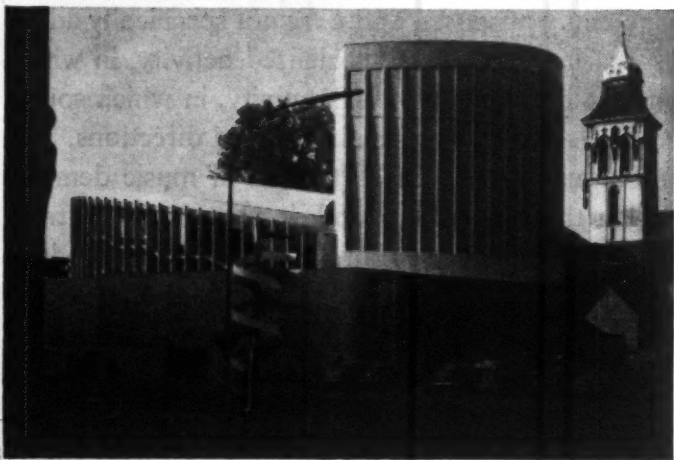
examples are scattered in time—where else could one find ten or more buildings of such a type executed in one country in less than a decade? Secondly, because these halls have been designed for an unusually discriminating audience—not only are the Germans traditionally a nation of music-lovers, but they are also, by more recent tradition, a nation of craftsmanly technicians, and the superb quality of the recordings put out by the great German recording-companies, coupled with increasingly available hi-fi reproducing equipment of matching quality, has trained up the German ear to a pitch of discrimination unequalled in Europe, probably unequalled in the world.

Both the proliferation of halls, and the hi-fi training of the audience that uses them, are by-products of the so-called German Miracle of the middle nineteen-fifties, the determination to make good both the economic situation, and the loss of buildings due to the war. In many towns, a new opera-house, or a new concert hall attached to an academy of music or radio-station, is one of the most visible and most visited symbols of post-war recovery, and the style of its conception and decoration both inside and out is a measure of what is new in the intellectual life of the new Germany. The split-block form of the upper parts of the Opera-house in Cologne is a dramatic shape on its skyline, and is typical of the city's adventurous approach to the mixing of new with old,

1 and 2, Cologne State Opera, above, and Münster Stadt-Theater, below; new auditoria as dominants in the urban scene, ranking equally with older landmarks.



1



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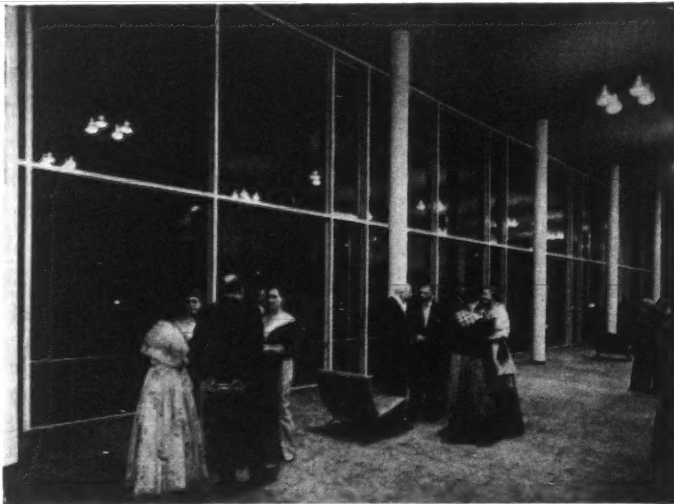
even if the forms of the opera house are open to criticism in themselves. Similarly, Professor Baumgarten's hall for the Academy of Music in Berlin, with its broadly-glazed façade, is an acknowledgment of international connections in a location where internationalism is of the highest symbolic importance. Or again, the highly original forms of the *Stadttheater* at Münster (described and illustrated in A.R. March, '57), and their sophisticated relationship to fragments of older building on or next to the site, suggest an attitude to past and present, ancient and modern whose undoctinaire sensitivity could be of European importance.

But in the ultimate functional analysis, it is the inside that matters in a hall for music—but not merely the auditorium itself. Listening to music is an emotional experience, and the members of the audience need to be eased into the right mood before they enter the hall, and kept in that mood during those parts of the evening when they are not in the hall, but in the bar or the foyer. In spite of the relaxation of much of the stiffness of prewar protocol, the Germans tend to maintain a degree of formality in their theatre-going and concert-going, and the architect must therefore make not only spatial provision for the mandatory social promenade round the buffet or foyers in the interval, but must also make emotional provision by the creation of a suitable environment both to sustain the general mood of the evening and the mental relaxation of the interval. In all this, Münster is probably the outstanding success, both in capturing and controlling the emotions of the audience as they come in from the street and pass through the richly decorated foyer, up the staircase and into the auditorium, and in creating a just-sufficient degree of relaxation when passing in the other direction (from the auditorium to the foyers) during the breaks in the performance.

But seated, attentive and attuned, within the auditorium proper of one of these new German halls, what does the concert-goer see, what and how does he hear? One thing is certain—he will not see the traditional-modern fan-shaped amphitheatre with its ceiling curving over in a carefully-calculated acoustic loop. The immediately-striking impression from a general survey of these new halls is their astonishing variety of form, curved and angular, symmetrical or free-form, plain or fancy. The Liederhalle in Stuttgart, to take an outstanding instance, has three halls of different shapes—free-form, pentagonal and rectangular—served by a single foyer within a single building—

complex. This variety is not wilful; the three halls are to serve audiences of different sizes for music of differing kinds, the smallest having also to double-up as a practice-room and hall for receptions. In other instances, other forms are found, with equally substantial functional justifications, such as the variant on the Baroque horse-shoe plan with many tiers of boxes at Münster, primarily intended for drama, or the simple rectangular volume of the Hessischer-Rundfunk hall in Frankfurt am Main, intended mainly for concert work.

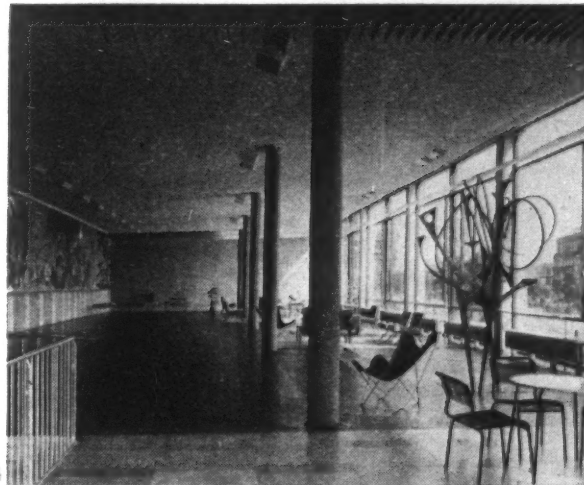
Yet these halls are not to be regarded as the result



3, foyer of the National Theatre, Mannheim, designed by Gerhard Weber, a large, simple, formal space serving the social parade which German protocol still requires, though in a less formal manner than used to be the case even in the nineteen-thirties.

of an irresponsible attitude to acoustics, however shocking they may appear to those brought up on the formulae and rules of thumb used in architecture schools. The idea of an acoustically-perfect hall has been given up, or nearly so, partly because the importance of subjective factors has become inescapable, and partly because it is increasingly realized that acoustics can be manipulated by a variety of means. Neither of these matters is a German post-war discovery. It has long been recognized that the word 'good' applied to acoustics has no absolute or stable meaning, but varies from person to person, time to time, and according to the kind of music being performed. For these reasons, and others, provision has been made—in theory at least—for the alteration of the acoustic characteristics of halls after they have been built; the Festival Hall is a case in point here. What the German experience has to offer for study is the results of what might be termed an increasingly liberated attitude to auditorium design, in which acoustics is no longer the overriding initial consideration governing the form.

Most of these halls are of a reasonable-enough shape, acoustically, but no more than that. The basic shape once given, as it might be the plain rectangular box of the Hessischer-Rundfunk concert hall, acoustical manipulation appears at once with the slight inward cant of the side walls to assist resonance. But it should also be noted that this fairly deep rectangular form of hall, which can also



4



5

4 and 5, interior and exterior views of the entrance side of the Berlin music academy, by Paul Baumgarten. The foyers are not only part of the external display, but their decoration, 4, uses art-works as part of an integrated scheme.

6, main staircase of the larger hall, National Theatre, Mannheim. Here, again, Professor Weber uses circulation for social display, supported by large works of abstract art.



6



7, main foyer of the Liederhalle, Stuttgart, by Adolf Abel and Rolf Oulbrod. Most of the innocating tendencies observed in recent German concert-halls can be seen in extreme form in the Liederhalle, and the huge central foyer, with its free form planning, is no exception.

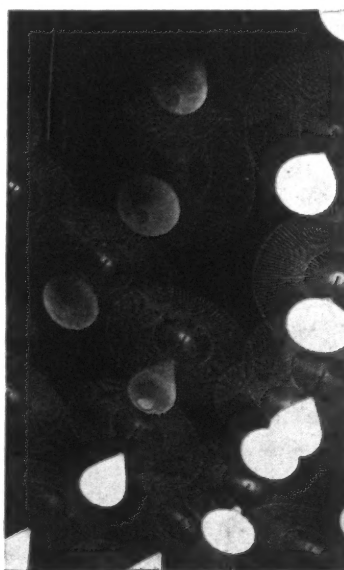
be found at Cologne, Berlin and Mannheim, may be, to some extent, a conscious reaction against the fan-plan orthodoxy of the Thirties, which resulted in the side-walls becoming so far apart that much of the sound was absorbed by the audience themselves before reaching the walls, so that an acceptable reverberation time, and smooth decay of sound, were difficult to achieve. Conversely, however, the side walls of the pentagonal *Fünfecksaal* of the Liederhalle, in Stuttgart, fan at so wide an angle, and the audience are grouped so compactly around the platform, that most hearing is of direct sound only—an admirable condition for appreciating the precision of pre-Romantic music, especially when coupled with good sight-lines and a close physical proximity to the performers.

To a certain extent, also, the forms of the halls are governed by this basic functional enquiry—is the main purpose the performance of concert-music, or of opera? In the first case, the plain hall with raked floor and possibly one balcony, but not always that, seems to be preferred, but for opera, where a greater degree of intimacy with the performance, and shorter sight lines, are necessary, then a more compact form with tiers of boxes or balconies, approximating, however loosely, to the traditional baroque opera-house, is still the first choice, as in the new opera-houses at Cologne and Hamburg. Some attempts at variability of auditorium shape and seating arrangements have also been made, at least to the extent that the balcony of the *Fünfecksaal* at Stuttgart can be screened off, thus creating a smaller and more intimate hall, while the *Kleines Haus* in Gerhard Weber's National Theatre at Mannheim, has a range of adaptability from the conventional relationship of orchestra and audience, to a condition approximating to 'theatre in the round'—which is hardly surprising since the hall was primarily intended for drama, including music-drama, though the condition where the audience effectively surrounds the musicians seems well-suited to both chamber music and small jazz groups. Another form of 'freedom' in the placing

of the audience, though not involving movable seats, is seen in the halls of the Liederhalle at Stuttgart where the tendency is for the seats to be arranged in smallish, irregularly-shaped groups, often with a single seat picked out in a different colour, rather than long rows broken by straight gangways, so that the hearing of the music becomes a pleasure shared with a small group of persons sitting near at hand, rather than a mass emotional experience.

It is clear that these trends toward adaptability and irregularity will call for acoustical manipulations far greater than the simple canting of the walls at Frankfurt, mentioned above. They will call for *local* as well as general manipulation of acoustic quality, and this brings us to what is by far the most interesting characteristics of these new auditoria in Germany.

[continued on page 99]



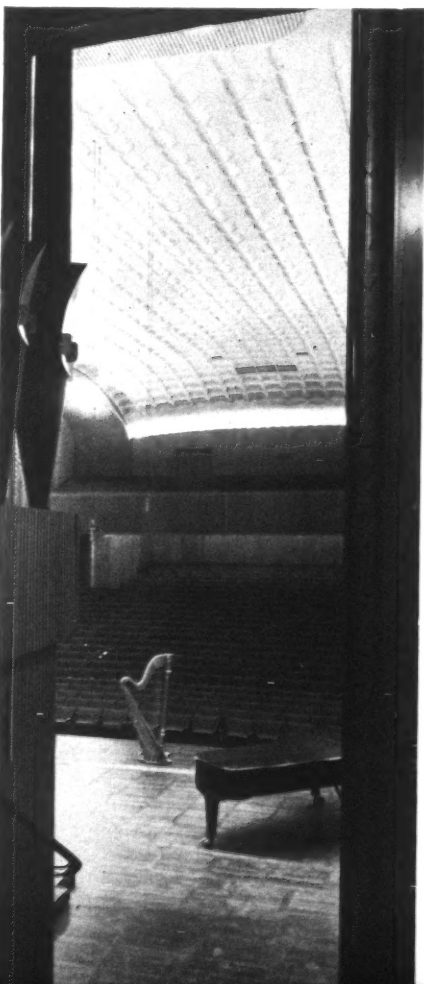
8, hanging lamps in the ceiling of the Stadt-Theater, Münster, by Deilmann, von Hausen, Rahve and Runau. Widely praised for their visual qualities, these lamps and their 'haloes' serve the important functional purpose of concealing a large volume of space which is acoustically effective, and contains services.

COLOGNE RADIO

Architect: P. F. Schneider

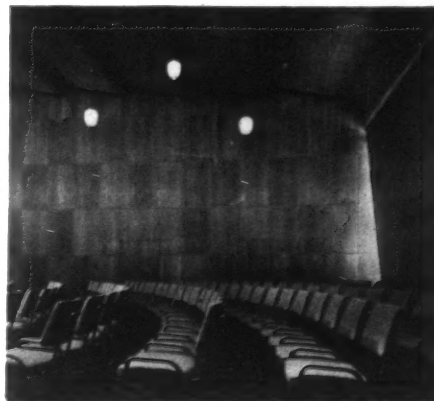
The halls and studios of the Funkhaus, Cologne, had to be fitted into a largely pre-existing structure (AR, August, 1955), with consequences that are seen in the plan above.

9 and 10, the large concert hall, seen in 9 from the stage entrance to the left of the organ in 10. The hall is of rectangular form, rather high and narrow, panelled

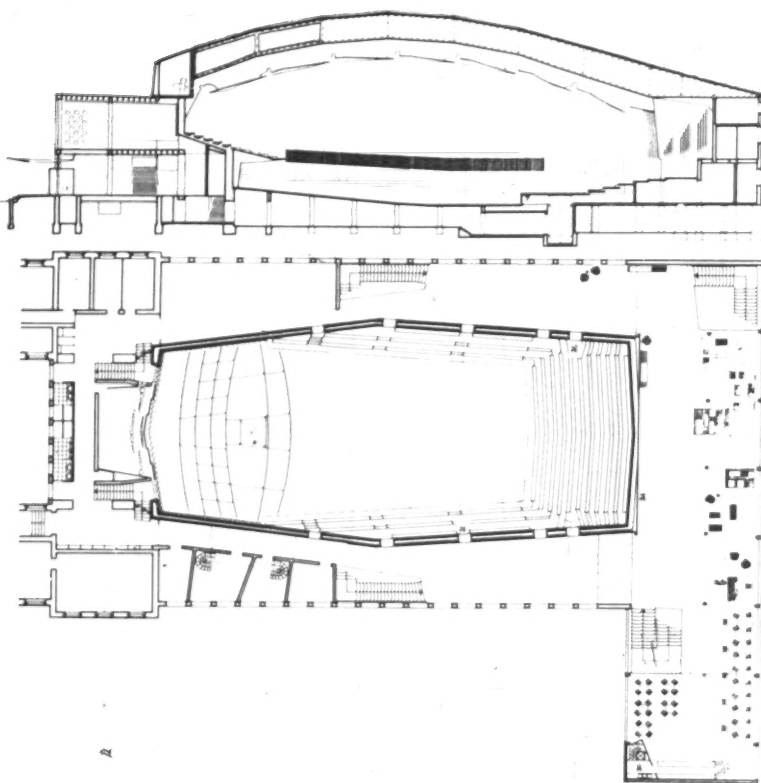


in pear wood, with projecting, ribbed, half-columns. Although there is a small reflector immediately over the orchestra, the whole ceiling is treated as a faceted reflector, faced in pre-cast hard stucco coffering.

11, the small hall for chamber music, though lacking the kind of elaborate handicraft detailing seen in 9, derives an intimate and business-like air from its plain panelling, and the acoustically waved ceiling, which is turned down to the floor at the back.



11



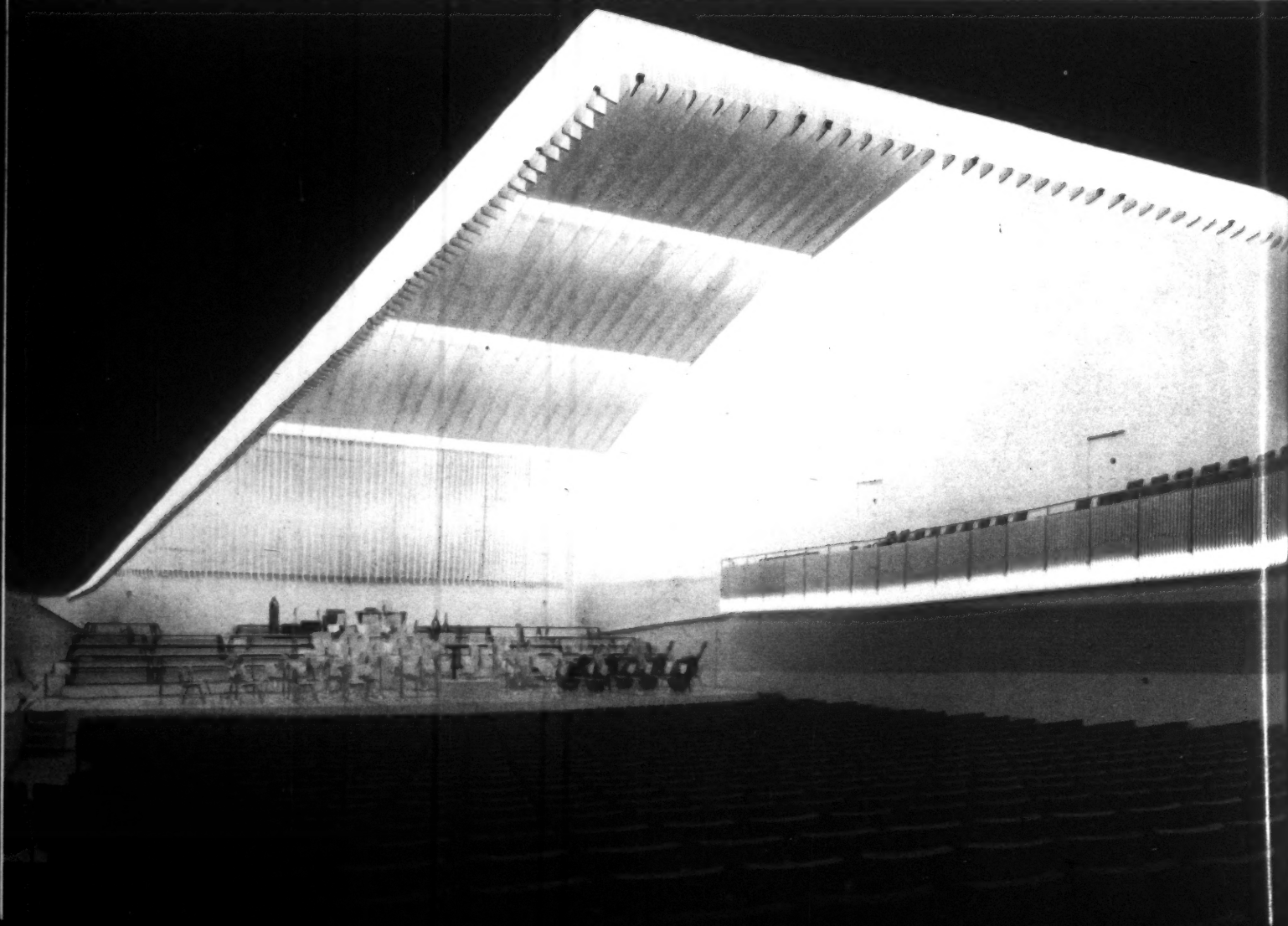
REVERBERATORS

BERLIN ACADEMY OF MUSIC

Architect: Paul Baumgarten

Symmetrical in plan (it shares its axis with the older building to which it is joined) the Berlin Academy with its 'coffin-form,' hump-roofed auditorium corresponds more closely in shape to the common conception of a well-designed concert-hall.

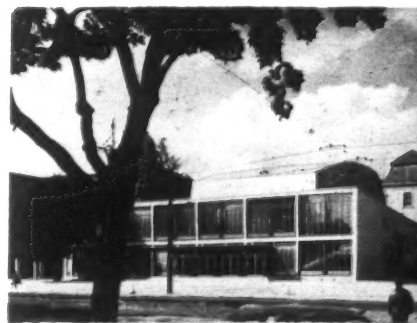
12, a general view of the hall looking towards the orchestra platform and the lowering that conceals the pipe-work of the organ. The finned facing of the balcony will be noticed, as will the fact that the panels of the visible ceiling overlap in the opposite direction to the common practice.





13, side wall of the platform end of Berlin Academy of Music's auditorium. Although this is a far from Expressionist design, the manipulation of acoustical textures is still the visual dominant of the interior. As an academic necessity, quite apart from aesthetic preferences, the hall is designed for great acoustic precision, for which the ceiling and plastered upper walls are chiefly responsible, confusing low-level echoes being blotted by the band of perforated material that runs round the hall below the balcony, and further controlled by undulating reflector surfaces behind the higher level of perforated panelling that continues the line of the balcony behind the orchestra.

14, the exterior, with its glazed front and visible foyer (see 4 and 5, page 89) and



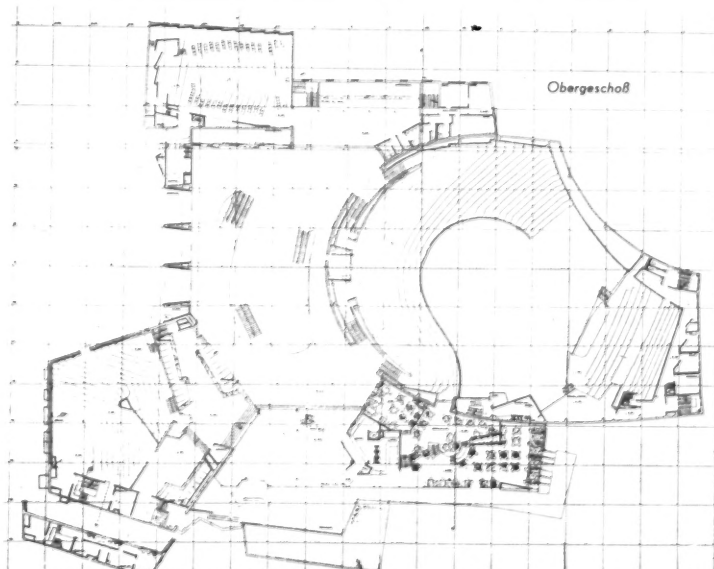
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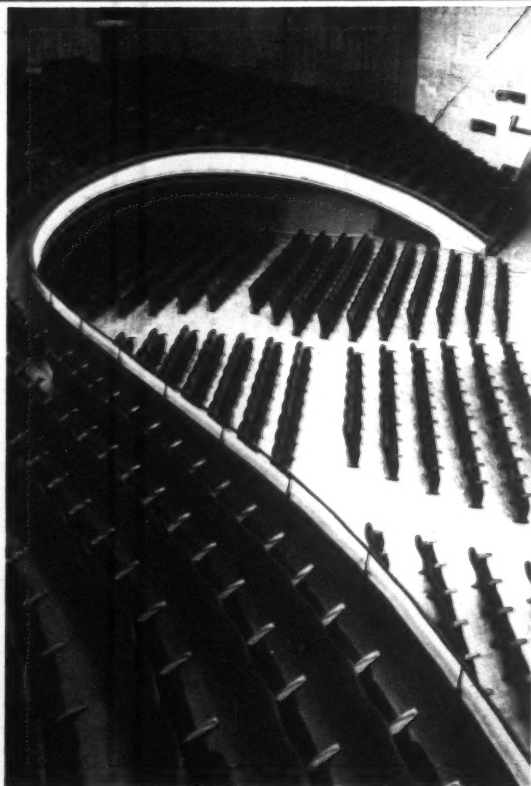
the roof of the hall rising above the lower block, confirms that the Berlin Academy building stands closer to international practice than other German halls.

LIEDERHALLE, STUTTGART

Architects: Adolf Abel and Rolf Gutbrod

The queen of post-war German concert halls, and the outstanding example of the Expressionist approach to their design, the Liederhalle consists basically of a vast central foyer serving three main halls as well as numerous ancillary rooms such as bars and restaurants. On the plan, right, the halls may be identified as follows: the free-form Grosser Saal, for large orchestral concerts, etc.; the pentagonal Funck Saal, for chamber music; and the rectangular Kleiner Saal, for other intimate music.





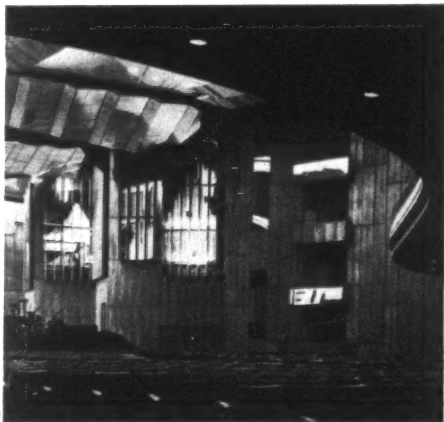
15 and 19, wall and ceiling treatments in the Grosser Saal of the Liederhalle. No other recent hall has gone so far in treating acoustic control as a branch of abstract art.

16 and 17, two views of the public side of the Grosser Saal. The style of the surface treatments, which is sharp and angular over the orchestra, becomes a composition of vast free-flowing curves on the public's side, with a balcony that plunges down to stalls-level at one end. The seating is broken up into small groups to introduce a feeling of greater casualness and intimacy.

18, interior of the Funcke Saal; as in the case of the small hall of Cologne Radio, the quality here is more plain and businesslike than in the larger hall, but widely splaying walls behind the performers give very short hearing distances. 20 and 21, air view of the Liederhalle, and a detail of the external walling, to emphasize the consistency of the abstract aesthetic that inspires the whole design.



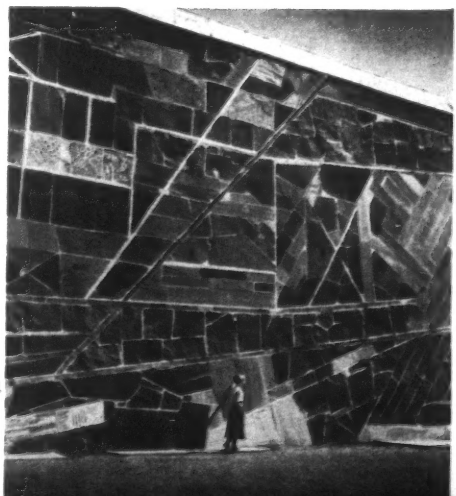
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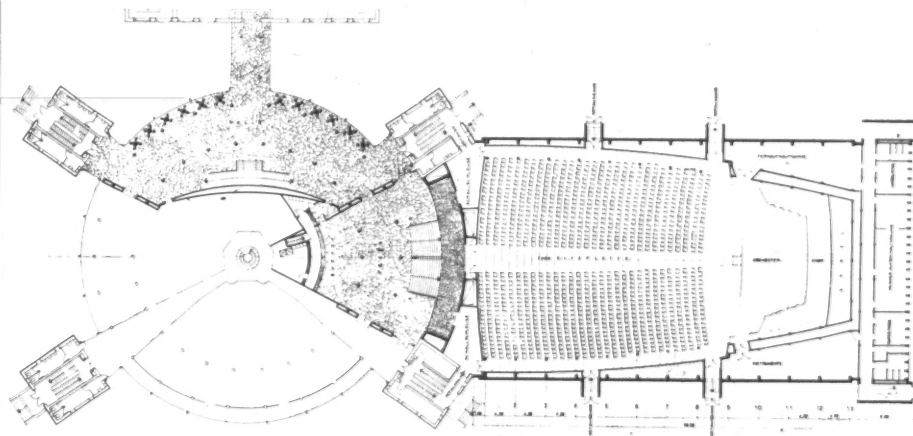
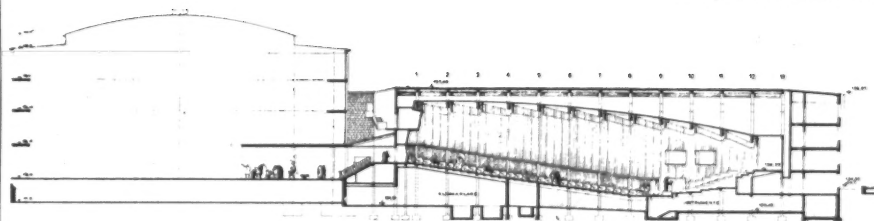


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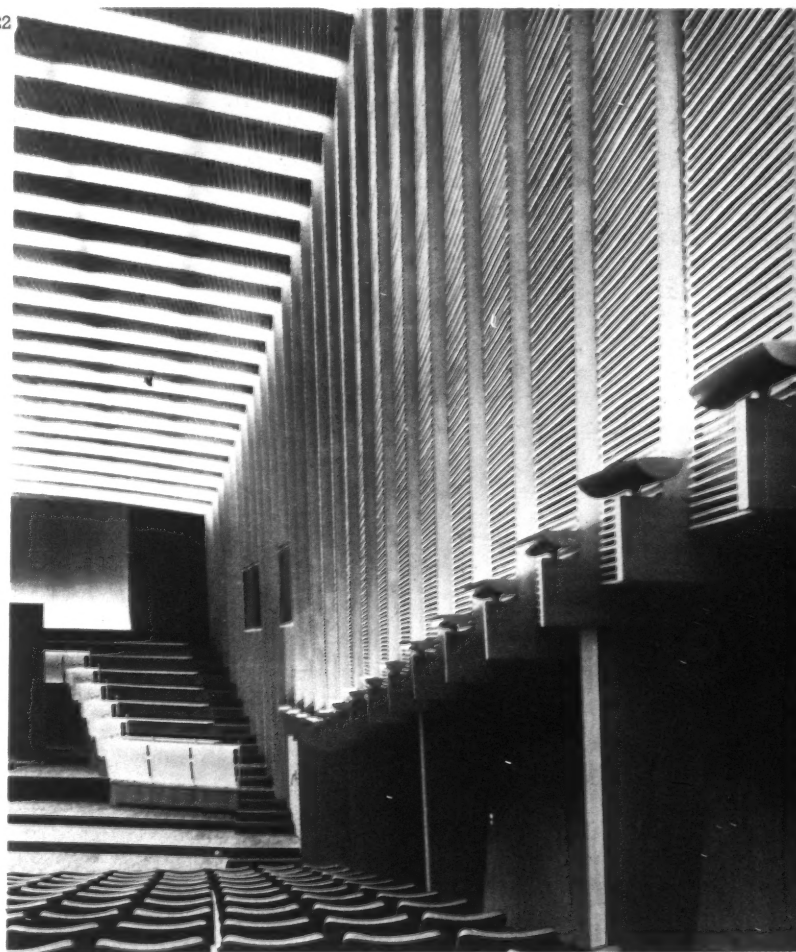


21

REVERBERATORS



22



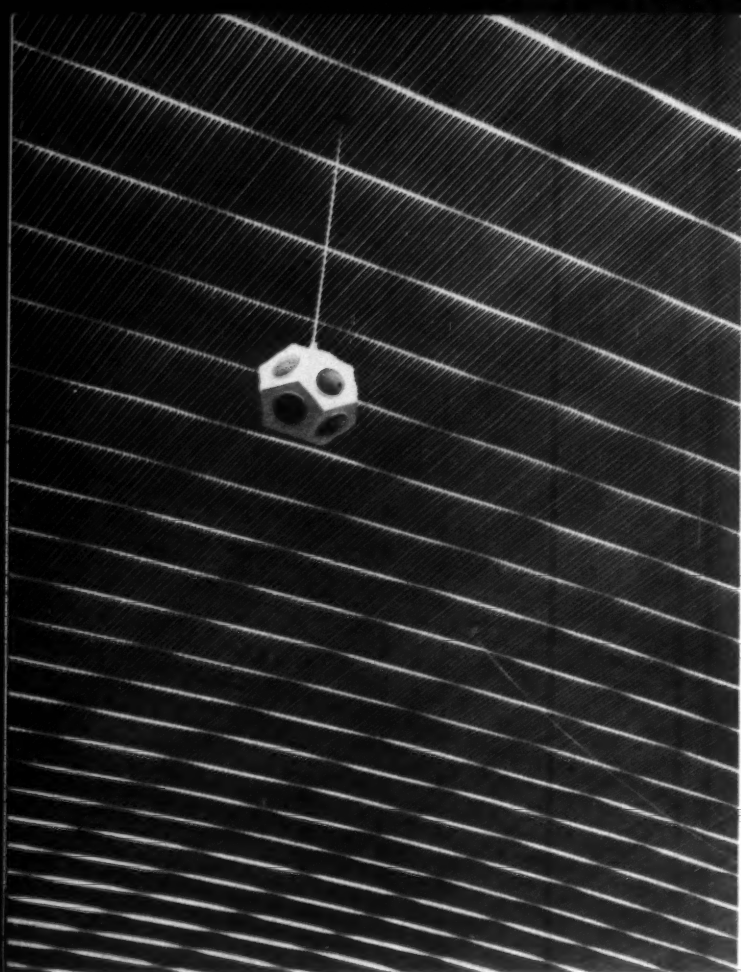
HESSISCHER RADIO, FRANKFURT-am-MAIN

Architect: Gerhard Weber

The Radio hall at Frankfurt is a plain rectangular structure annexed to the large glazed rotunda originally built for the

Federal Parliament, but within the plain rectangle (see plan and section) above, the form of the hall itself is tapered down toward the orchestra end.

22, the right-hand side of the auditorium,



23

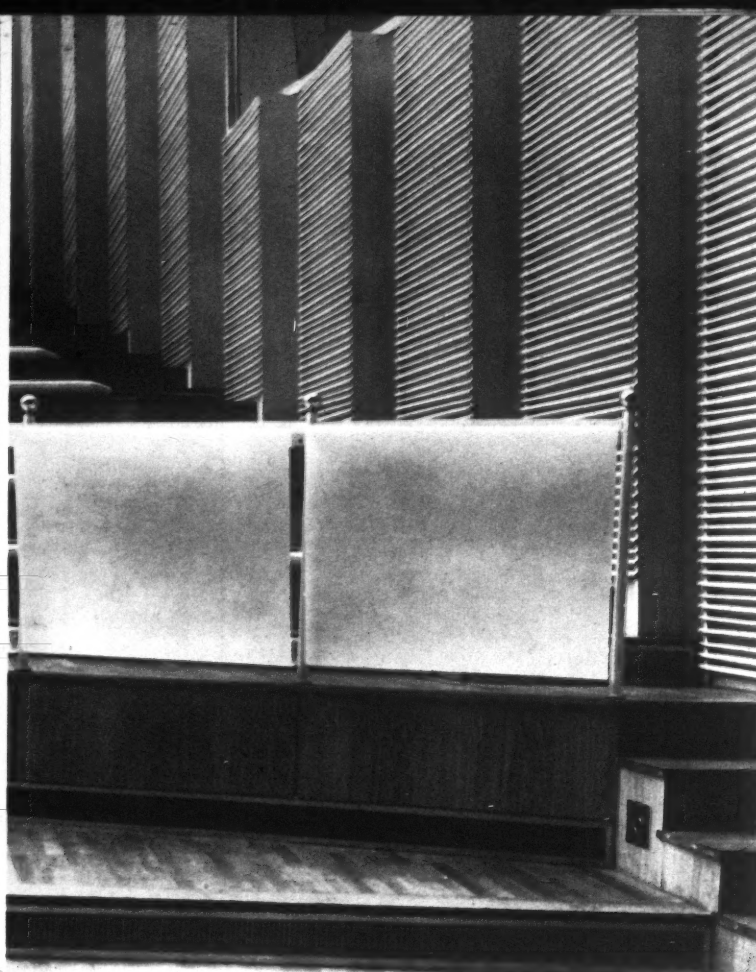
looking toward the orchestra; in addition to the curved taper on plan, the hall also has its walls, which are covered in wooden louvers, canted inwards to assist reverberation.

23, ceiling and pendant microphone/loudspeaker unit in the Radio hall, Frankfurt-am-Main. The louvered surfaces of the ceiling and walls conceal an important, if cumbersome, technical innovation—a system of rotatable acoustic mattresses with which the hall

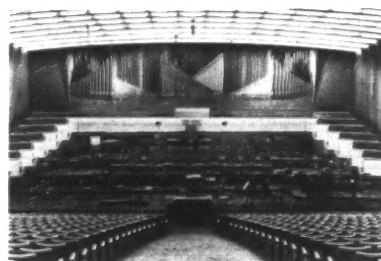
can be 'tuned' for different kinds of music.

24, balustrading of plastic panels at side of orchestra. Plastics, when fully exploited, will probably prove an important extension to the repertoire of acoustic materials. For the present, however, their use is chiefly visual, and plastic music-desks can be seen in e.g. 13, page 93.

25, a general view of the interior, showing the displayed pipe-work of the organ.



24



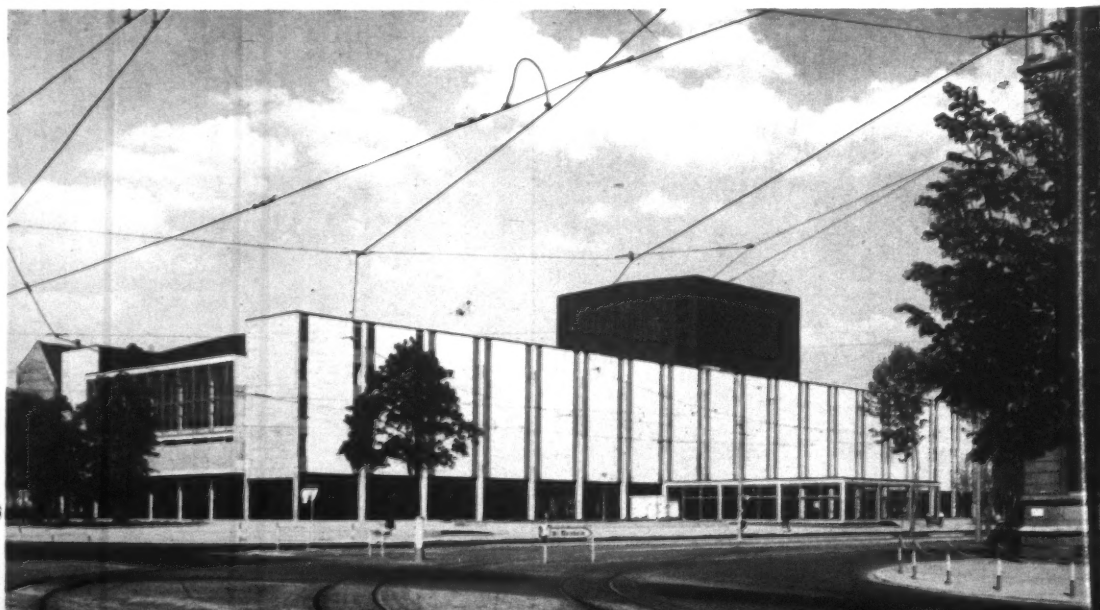
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REVERBERATORS

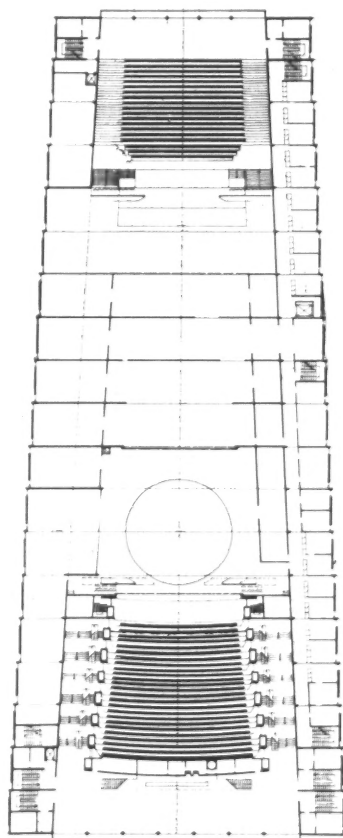
NATIONAL THEATRE, MANNHEIM Architect: Gerhard Weber

26, a general view of the exterior of the theatre, which, in fact, contains two completely separate halls within its long, slightly tapering plan (see opposite). The Grosses Haus (lower end of plan) is a formal opera-house with proscenium stage, the Kleines Haus, at the other end of the building, is a less formal, more adaptable hall which can be arranged in various ways for arena productions, etc.

26



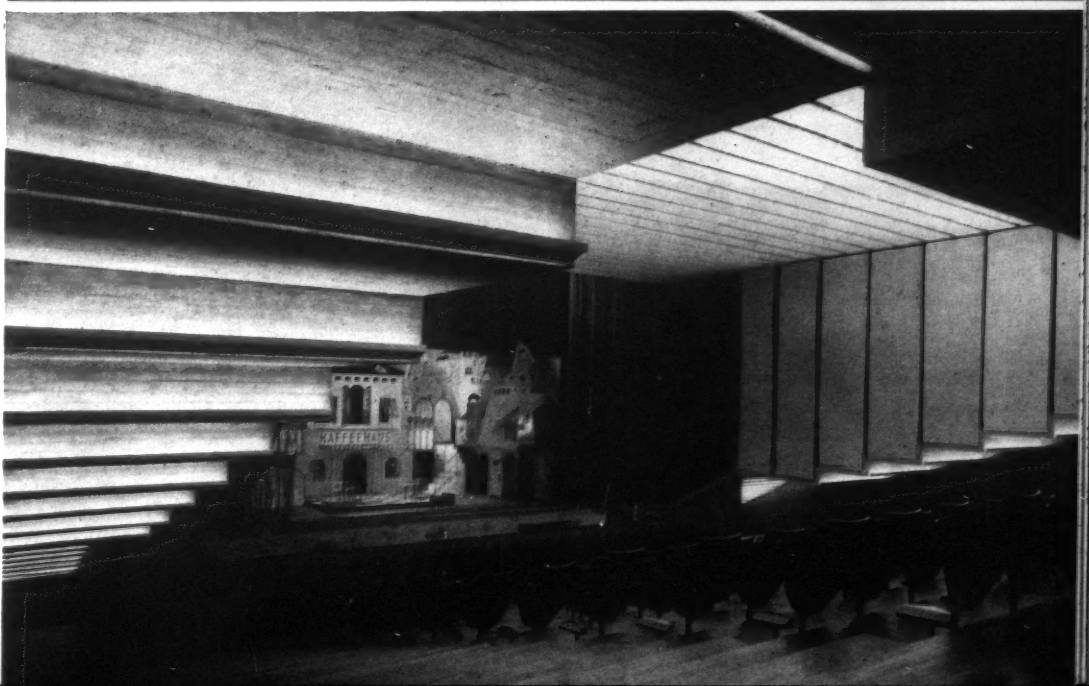
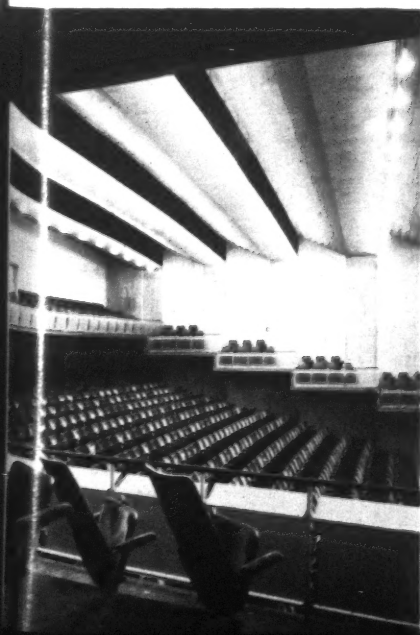
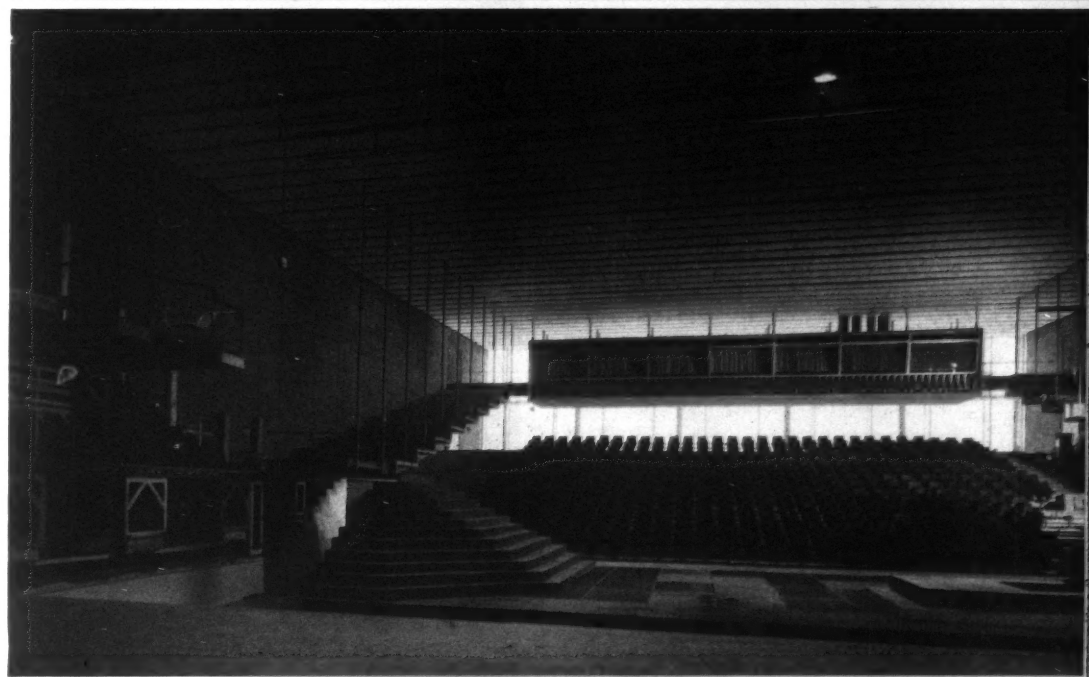
27 (below) and 28, two views of the Grosses Haus of the National Theatre, Mannheim. The plan is unusually deep for a hall intended for drama and opera, and has side-boxes staggered back over almost its full depth, with a shallow back-balcony. 29 and 30, views toward, and away from, the stage-area of the Kleines Haus, showing the stage set for different kinds of productions and, in 30, the side-balconies screened off.



28



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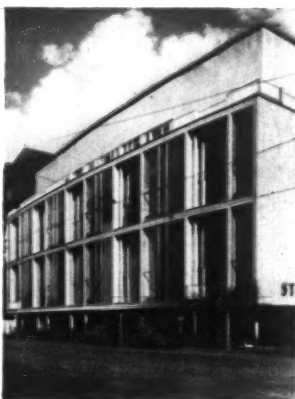
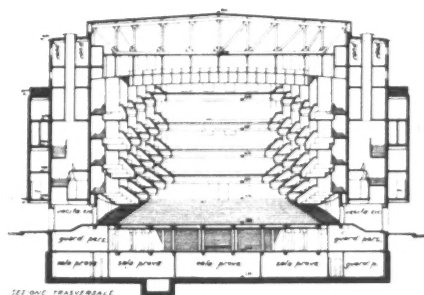
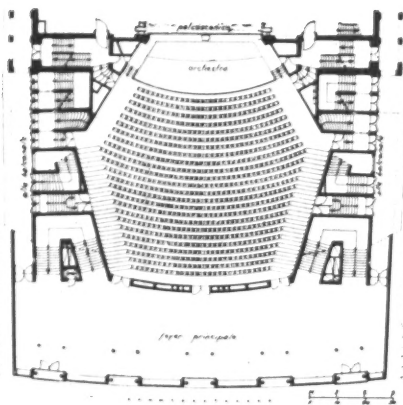
HAMBURG STATE OPERA

Architect: Gerhard Weber

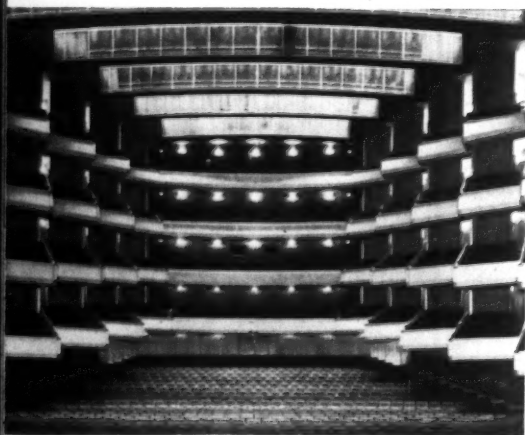
The main volume of the auditorium is compact—almost as high as it is deep (see plan and section, right) in order to give the short sight-lines and general closeness traditionally associated with opera.

31, the street facade—the upstand wall above and behind the foyer windows shows the full height of the auditorium.

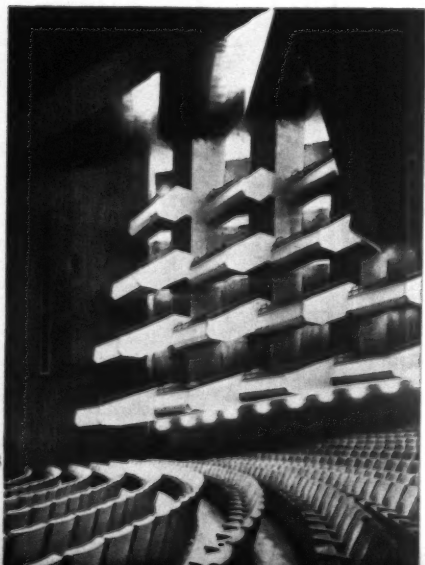
32, the interior seen from the stage; this viewpoint gives the greatest impression of traditionalism in the design, the four



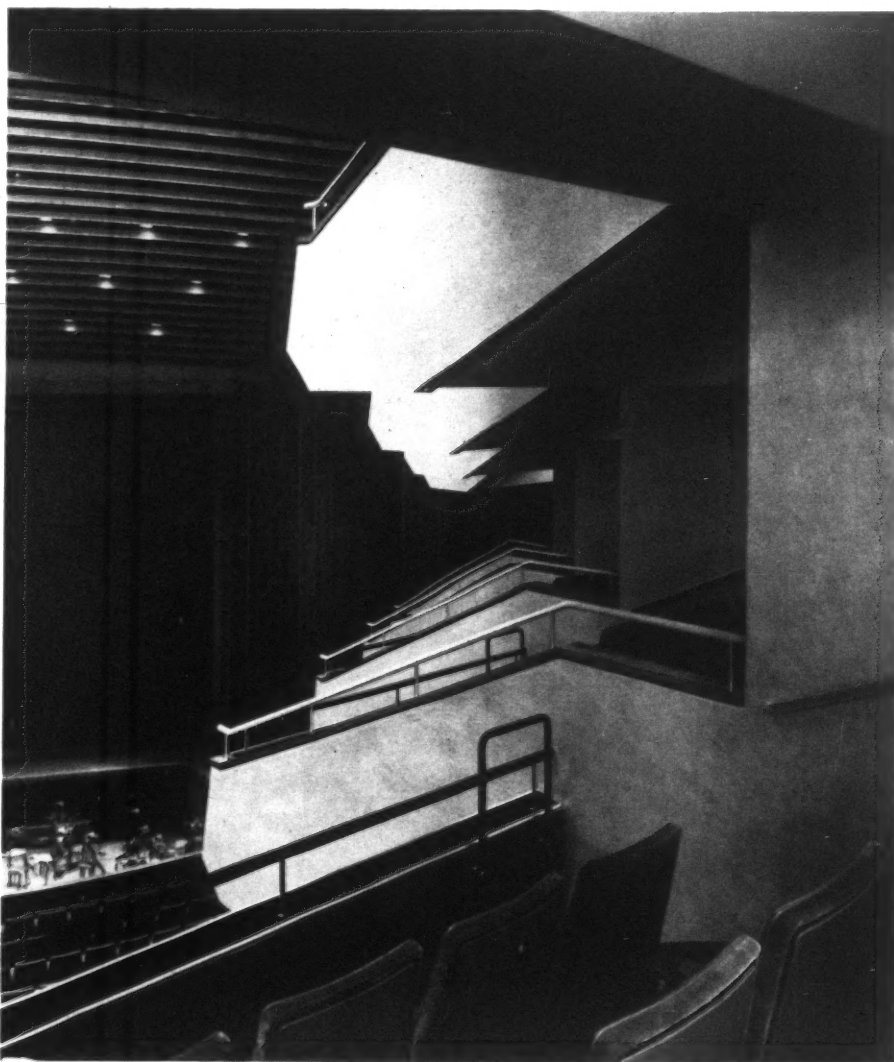
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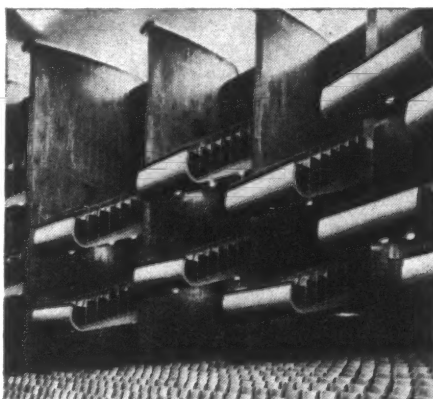
tiers of balcony giving a close approximation to the characteristic section of Baroque opera houses.

33 and 34, side-boxes in the auditorium; in fact these boxes are so large, each holding up to nineteen persons (see

also frontispiece, page 86), that they no longer function in the traditional snobbish sense of 'loges'—a sign of the growing pattern of change in German protocol, though not as extreme as the forty-seater 'boxes' at Cologne, opposite.

continued from page 90]

At the level of technical ingenuity, there have been remarkable attempts to provide controllable tuning of halls, so that their characteristics can be altered during performances, if the nature of the music or the size of the audience demand it. At Frankfurt the hall can be tuned by rotatable acoustic mattresses behind the louvred walls and ceiling, which can be set at different angles, or entirely reversed to present a different surface to either reflect or absorb sound. Similar devices have been used to control the characteristic sound-quality of radio studios, but the main lesson to be learned from radio technology seems likely to be the application of hi-fi itself to acoustical control. Concealed loud-speaker systems can be used not only to provide local reinforcement of the sound (or selected parts of the sound-spectrum)

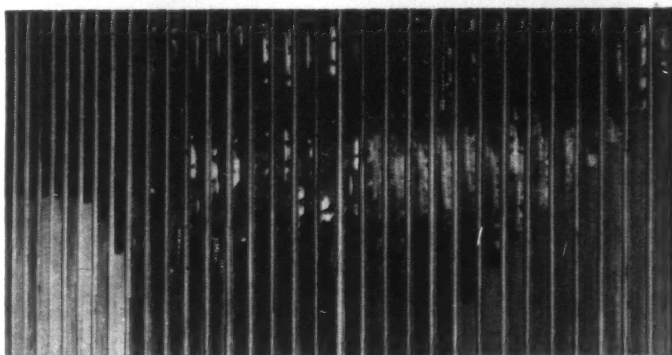


35, boxes in the Cologne State Opera carry the tendency seen in the Hamburg Opera House, opposite, to the point where a box ceases to be the private apartment of an aristocratic family, and becomes, instead, something more democratic, though still intimate in scale.

but also, with a suitable time lag, to control the apparent reverberation, even to make reverberation when none is present (as in the familiar echo-chamber effect used in 'pop' records).^{*} This technique is still in its experimental stages, research being in progress at Göttingen under Professor Meyer, but its consequences for concert-hall design could be spectacular—provided that it is remembered that this is a corrective technique for 'live' hearing, not a substitute.

However, it is likely that the main work of acoustical correction and adaptation will continue, for some time, to be effected by means that are purely mechanical (of which Frankfurt is an extreme case) and also visible. In other words, it will be achieved by the shape, and the surfaces, of the walls and ceiling—to some extent by the surfaces of the floor and seats. It is in the manipulation of these visible surfaces that German designers have shown themselves most skilful and most bold, and it is in the relationship of these surfaces to the total form of the hall that their

^{*}In concert halls, etc., such manipulation of sound depends on what is termed the Haas Effect—the reinforced or prolonged sounds appear to come from the same source as the original natural sounds, even when, in fact, they do not.



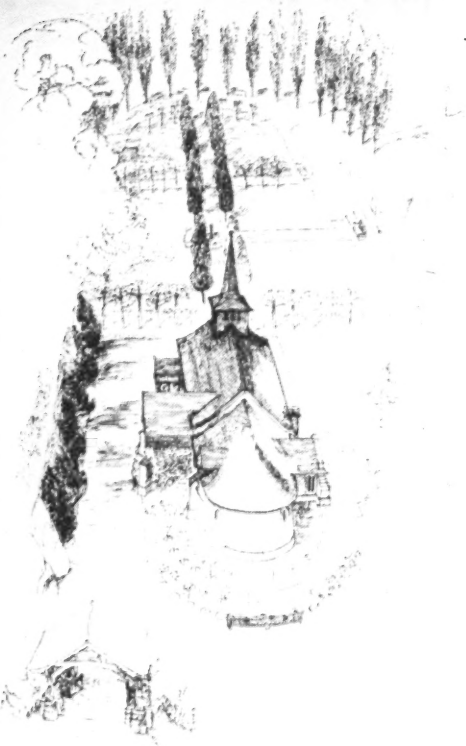
36, wall treatment at the back of the orchestra platform, Nordwest-Deutscher-Rundfunk, Hanover. Professor Kraemer and the team who worked with him on the internal finishes here achieved perhaps the most sophisticated solution to the problem of disposing various materials—wooden boarding, plain and perforated metal—for acoustic purposes.

work has most to teach architects in other countries.

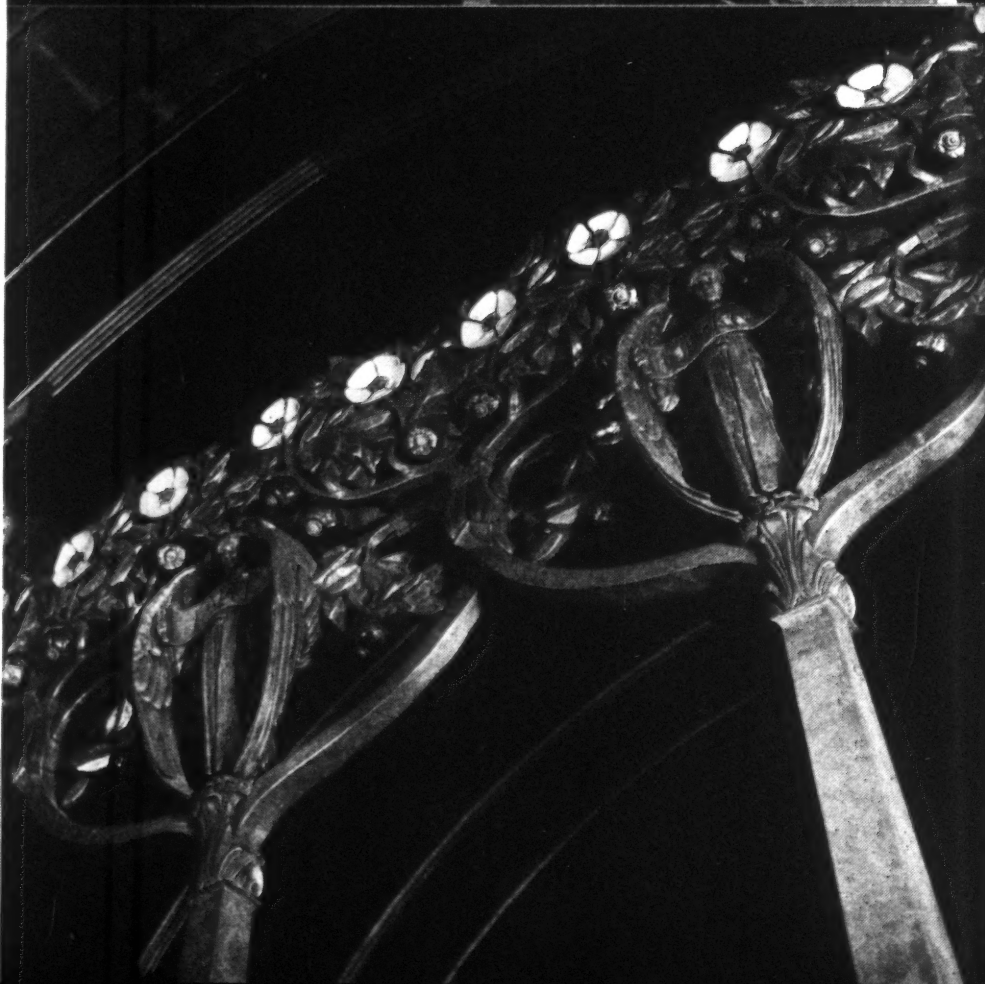
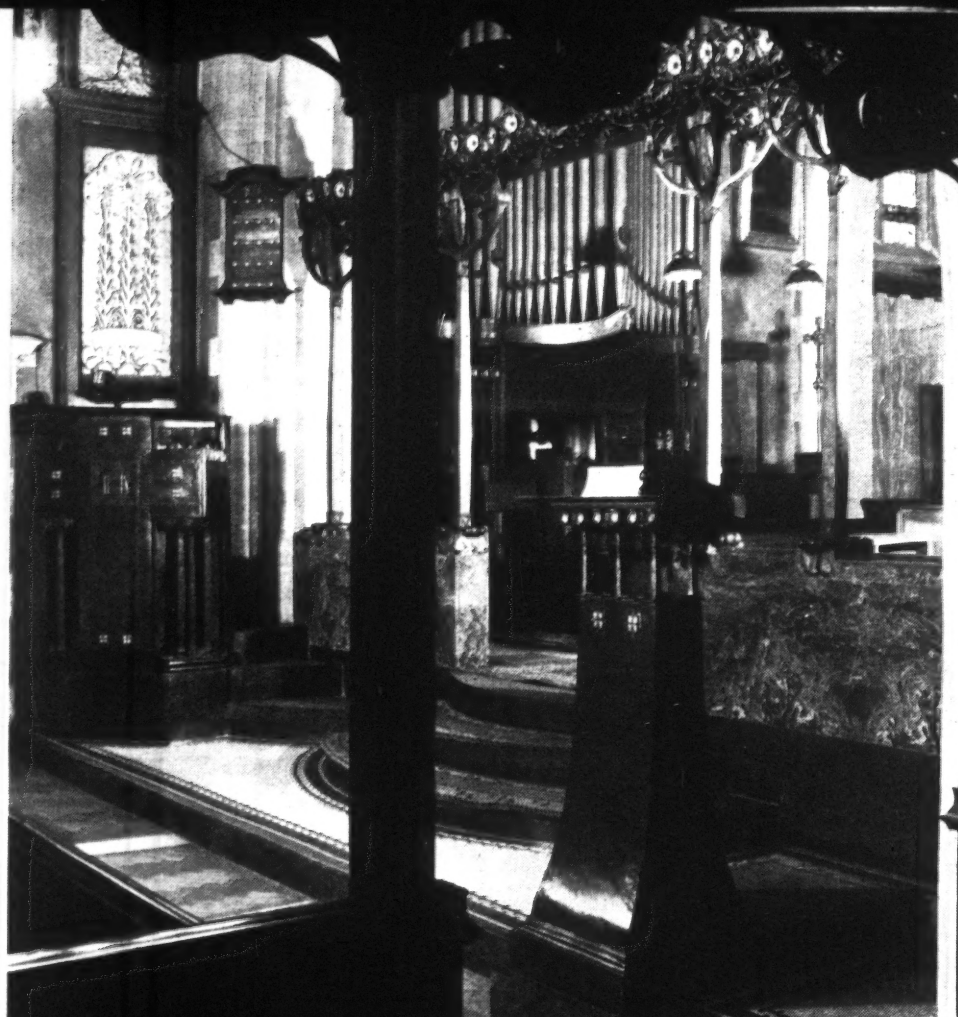
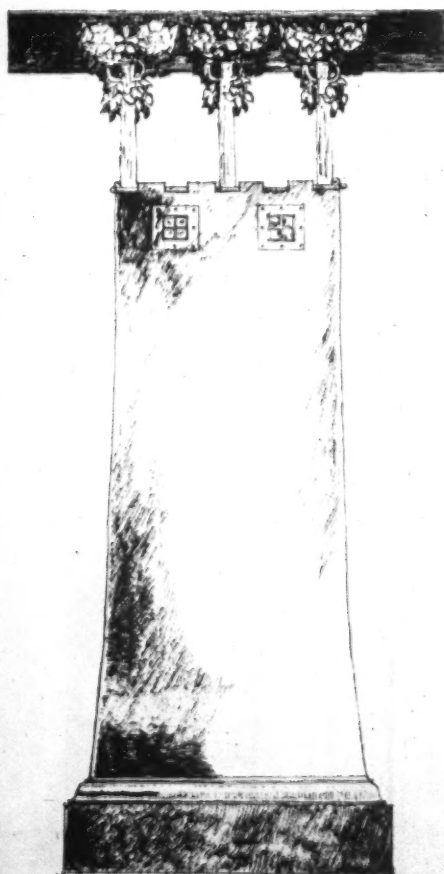
They have had conspicuous success in this field—whatever the superficial style of the auditorium, be it strongly "operatic" (as at Münster), straightforward (as at Mannheim), or Expressionist (as in the Liederhalle) there is no sense of the acoustical controls having been pasted on to the design at the last moment. There are two reasons for this: either, as in the space above the lights at Münster, or behind the louvres at Frankfurt, there is the volume available to conceal all sorts of tackle and services; or, as on the walls of the *Grosser Saal* of the Liederhalle or the *Konzertstudio* of the Nordwest-Deutscher-Rundfunk at Hanover, the acoustic surfaces are visible, but have been treated right from the start as part of the visual design.

The obvious skill of German architects in this last technique, though it may create interiors that are initially startling to English eyes, probably derives much of its strength from the amount of theorizing and research that has gone on in Germany concerning the integration of architecture and abstract art. The skill in incorporating patches of different materials and different textures into a coherently designed wall for acoustic reasons has been prepared by manipulating wall-surfaces in a similar way for purely aesthetic reasons, and one often finds a family-likeness between the handling of acoustically corrected walls and, say, exterior mosaics, floor-patterns or free-standing sculptures.

Viewed as a whole, then, the achievement of these new German halls for music and opera is to have introduced a liberated approach to the design of the bulk form of the hall and to the grouping of the audience within it, to have built up a body of practice in the manipulation and correction of acoustical effects, and to have integrated these new developments into architecturally coherent compositions.



The church of St. Mary the Virgin, at Great Warley in Essex, is that rare thing, a complete Art Nouveau church, conceived all of a piece around a single theme, the Resurrection. The sketch, above, by John Malton (the author of the article on the church which begins opposite) shows that the exterior strays little beyond the local Essex vernacular, but the lectern, below, all the interior fittings and the screens, right, exhibit a fully-developed Art Nouveau style, and programme of symbolism.



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ART NOUVEAU IN ESSEX

During the first few years of this century two men, whose work was rarely conventional, were designing and executing a building of a kind normally thought to need extreme conservatism or at least conformity with precedent in design. These men were Mr. Charles Harrison Townsend and Mr. William Reynolds-Stephens. They were commissioned by Mr. Evelyn Heseltine to build a Church and Garden of Rest in the village parish of Great Warley, south of Brentwood in Essex. The building was to be a memorial to Mr. Heseltine's brother, Arnold Heseltine, who had died in 1897.

The ideas that it was wished to have embodied in every aspect of the building and its surroundings were somewhat unorthodox in their emphasis. The programme set the designers was a rigid one which controlled, but fortunately did not stifle, their originality. So that there should be no thought of dwelling morbidly on the facts of burial or thoughts of death, everything in the conception of Church and surroundings was subordinated to the purpose of symbolizing and illustrating one idea, the idea of the Resurrection. The building, when completed, was presented to the parish. When the Church was dedicated in 1904 an explanatory leaflet told the parishioners that:—

'The primary object of Mr. Reynolds-Stephens in his designs has been to lead the thoughts of the worshippers onward through his decorations to the glorified and risen Christ whose form in the centre of the reredos is to be the keystone of the whole scheme. He has made free use of floral forms throughout the decoration, emblematic of progressive growth in the earthly life, but still more of glorious hope which year by year is emphasized at Eastertide, the time of floral recrudescence.'

From a casual glance through the screen of trees that veil it from the road, the Church would appear to differ little from many another simple one in Essex. The two-celled building with wooden belfry and shingled broach spire is native to the more thickly wooded parts of the county. It is most probable that such a traditional external appearance was insisted on, so that there should be no risk of introducing a disturbing element into the landscape. Harrison Townsend, without doubt, could have made here a revolutionary contribution to Church design. He was, after all, building at that time his unconventional Horniman Museum at Lewisham. The small church he had built in 1898 at Blackheath near Wonsers in Surrey was a building more nearly of the character that was

required of him at Warley.

On entering the churchyard at Warley it is apparent that here is no rustic church, simple because of poverty. The building has simplicity it is true, but the effect is of sophistication. In the main, it is the manner in which the surroundings of the church have been contrived that accounts for this. This is a subtle preparation for a church interior which might lose some of its impact if entered from a more conventional churchyard.

In this Garden of Rest there are areas of smooth mown grass and gravel paths and long white benches, Cypressess and pleached lime trees. All is carefully tended. It is more like the garden of a Country house than a churchyard. There is a near-symmetrical formal layout of paths. The semi-circular one in relation to the apse is lined with regularly spaced rose trees which at once recall those in Charles Rennie Mackintosh's drawing for his house for W. W. Blackie at Helensburgh.

To the west of the church and at a slightly lower level beyond, are graves with low curbs. Headstones are not allowed, being thought too obtrusive reminders of the dead. Though the view from the Lych Gate is right through the churchyard to the half circle of Lombardy Poplars on the west and the lush country beyond, not a grave obtrudes.

The walls of the Church are rough-cast rendered, but for the stone dressings to the door and window openings and the stone plinth mould. The cast-iron rainwater heads are shaped and ornamented with stylized foliage in such a way as to combine with their downpipes to resemble tall stemmed growths. The window openings are mostly plain lancets with simply moulded reveals. There is heart shaped tracery in the window of the side Chapel and in the rose window at the West End. A rose window such as this is an unlikely thing in a small country church and its presence here again hints at the sophistication of the scheme. The row of small windows below it is an arrangement typical of Townsend's work.

Pevsner calls the exterior 'modestly pretty à la Voysey.' On the other hand, Townsend's work at Whitechapel, Bishopsgate and Lewisham has been adjudged to owe something to Richardson and Sullivan. May not the model here be 'Richardson Suburban.' The treatment of the stone base walls to porch and lych gate, the form of the exaggerated bellcast of the eaves and the use of shingle siding are all elements common to Townsend and to that style and not to that of Voysey. The timber belfry, to be truly in the Essex tradition, would undoubtedly be faced with

regular weatherboarding painted white. The one here, however, is faced with shingles and has three louvred openings to each face, not the usual one. On the top of the spire is a figure of the Dove of Peace with olive branch in its beak. The figure is made of wood covered with copper sheet and is about 2 ft. 6 in. long.

The church is entered through a door which, on turning the ring handle, divides surprisingly at three quarters of the way across its width.

Some of the internal furnishings of this building are described in 'The Studio' for February, 1905, where it is written:—

'Although the impression made by the interior of the church is at first glance one of quiet and restful elegance, although there is nothing which immediately asserts itself, and insists upon attention, the more the details are analyzed, the more satisfying is the revelation of his (Mr. William Reynolds-Stephens's) inexhaustible variety and of his cleverness in contriving fresh ways of expressing his ideas. Indeed it would be difficult to find an example of modern decoration which will better repay examination part by part and detail by detail so as to see by what thoughtful combination the whole harmonious effect has been built up.'

On entering the first view of the interior is the sight of the font, framed by the door opening. Its silhouette is somewhat eerie in effect and startles when seen unexpectedly. It does not do this because of any misshapeness of form, for on closer inspection it is found to be a pleasant example of the pedestal statuary that Reynolds-Stephens was doing at that time. It has, however, that strangeness which is inherent in the hint of Arthurian mysticism which is the essence of the whole character of the interior and which is a link between the works of the Pre-Raphaelites and of the Aesthetic Movement.

Mr. Reynolds-Stephens designed and executed nearly all the interior fittings, but Mr. Harrison Townsend, who was responsible for the structure, also designed most of the internal joinery. The pews, choir stalls and wall paneling to the nave are his work. All this joinery is in walnut and the wall paneling has, in addition, some inlaid patterning in marquetry. The shape of the flowing hood-moulds that span three panel bays at a time is similar to that of those over the tower windows of the Horniman Museum. The outstanding feature of the interior, however, is the bold and effective way in which a diversity of

materials have been handled, the juxtaposition of various metals and alloys being particularly successful. In the screen which divides the nave from the chancel this delight in materials is displayed. Brass trees grasp with root-like claws low walls of dark green Irish marble from which they rise on their shaped stems of cast brass to carry across the chancel in their tightly interlaced foliage, red glass pomegranates, flowers in mother-of-pearl, figures of angels in oxidized silver and a cross. On the left-hand side of the screen is the pulpit, whose front is of oxidized copper sheet in the shape of a cross set into a backing of dark grey fossil marble and ornamented with blue pearl. The cross shape is flanked by trees in green bronze with brass flowers. On the right hand side of the screen is a lectern of shaped copper sheet with pearl ornamentation. On its top it has short flowering stems supporting a brass book-rest.

The side chapel screen, which separates it from the nave, ingeniously achieves in walnut the same effect of lightness as does the other in metal. From a low panelled screen of pew height rise hardwood shafts which are kept slim by being paired for strength. They rise one on either side of the low screen from its base. These pairs alternate with single shafts which rise from claw-like junctions with the head rail of the low screen. The shafts all carry stylized poppy leaf foliage in openwork carved walnut. This foliage carries a moulded cornice rail which resembles in its sections that of a poppyhead. Pewter plaques in the form of conventionalized poppy flowers are applied to the rail in pairs above the heads of the paired shafts.

The roof to the nave and chancel is a simple boarded wagon vault. In the nave the vault is divided into bays by broad ribs decorated with the forms of conventionalized rose trees and all covered in aluminium leaf. Between the springing of these ribs and the wall panelling below are panels each filled by three lilies rising from their bulbs, again all in aluminium. In the chancel, the vault is divided into strips by narrow aluminium ribs. The whole of the half dome of the apse above the dado line is faced with aluminium sheet on which is formed, by repoussé work, a stylized grape vine (similar to the one embossed by William Morris on the cover of his Kelmscott Chaucer). All is in self-coloured metal except the bunches of grapes which are red.

Below the dado line, the whole of the apse wall is faced in light green Swiss Cippolino marble. The floor of the sanctuary is dark grey marble.

The altar rail is of oxidized copper and is carried alternately by slabs of dark green marble and by brass wreaths in the form of crowns of thorns each flowering with three large single roses.

The Reredos was designed to contain the central motif, the figure of the risen Christ which is of copper faced with oxidized silver. The figure stands on a serpent of black oxidized copper with mother-of-pearl enrichments and red beady eye. Altar frontals were worked by the sisters Clewer. It is unfortunate that the Reredos has some resemblance to a dressing table; which brings out again the difficulties of translating elements developed in domestic work to other spheres.

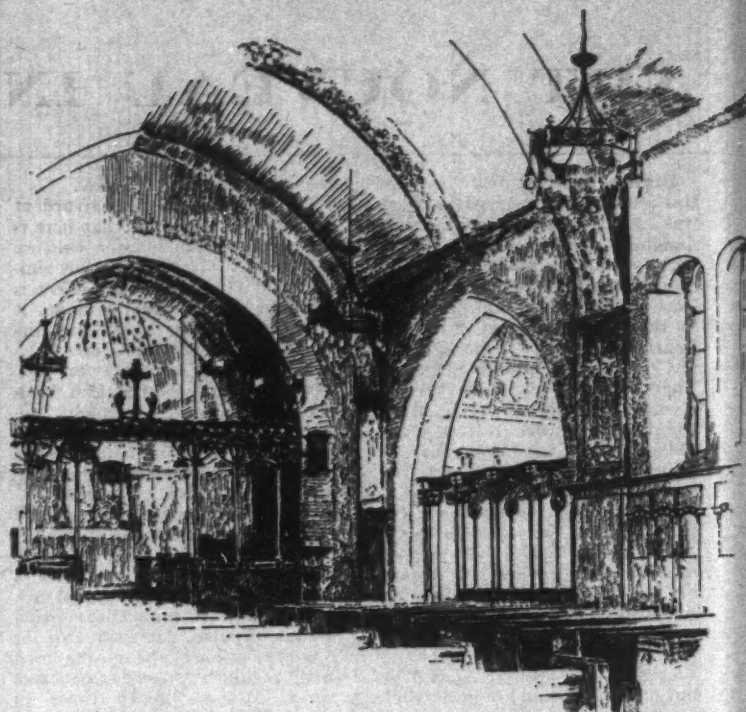
The system of ornamentation developed by the followers of Art Nouveau involved great use of natural forms out of which they tried to evolve a new language of ornament and decoration. For a scheme such as this at Warley, this symbolism of living growth was undoubtedly appropriate provided that it could be adapted to ecclesiastical requirements. In carrying out this scheme the team of designers seized the chance of demonstrating the potentialities of their idiom. In hoping to show that here was a new style capable of universal application in the new century they were due to be disappointed; for by 1906, when all was complete here, Art Nouveau was a spent force. It had been truly an international style in that Europe of open frontiers, but by 1910 we in England had returned to insularity. Its unorthodoxy had made it expensive in time and labour, both in invention and in execution. Its medium was the skilled handcraft worker (often amateur and sometimes female) to whom leisurely conditions alone were amenable. The thought of machine made approximations to their work was abhorrent to them. It was no lazy man's style, and no plagiarism, however selective, from the best measured drawings was enough to carry it on.

Trouble was had early on when it was felt that the light coming from the windows on the south side of the choir upset the balance of the scheme by reducing the dominance of the bright silver figure. To rectify this it was thought fit to block these windows. The original windows were removed and are now in the north wall of the chapel at Brentwood School. They were replaced by plain leaded lights and the window area was covered inside with a painted panel. The result is not altogether satisfactory when compared with early photographs taken before the blockage. It is not as easy now to appreciate the detailing of the chancel screen and choir stalls. The obstruction of light has, however, preserved for us the original hangings to left and right of the organ console. The design of each is a single tall stemmed growth rising from a heart. One stem is crowned with holly leaves and berries and the

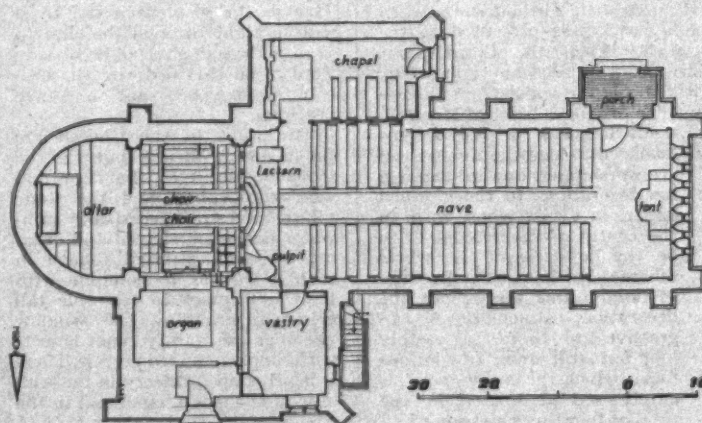
other with rose leaves and flowers. All is in pink, pale green and buff embroidery on a deep blue ground. The holly berries are large red beads and little white beads form the flower sepals. The treatment of the organ is, I think, one of the less successful effects in the church. There does not seem to be a unifying idea here. The organ pipes are displayed. To have hidden them behind a grille would have been too easy a solution perhaps. (Maybe there was conflict with the organ builders.) Anyway, the pipes are, as it were, held back by steel bands which have heart-shaped accents of colour in red glass applied to them. There is also one small angel, like a gilt moth, over the console. The former bright steel bands have tarnished; a rare lapse in this scheme in which such care was taken to choose materials that would last or even improve with age.

There are few painted surfaces inside or out. The surrounds to the lily pilasters are stained (green, of course), and the ceiling panels of the side chapel are painted, and that's about all. The early photographs show the ceiling panels unpainted, but I hardly think they were long in that condition. At that time the wall panelling between pilasters was not yet in place. For the time being there were hangings at the nave walls—all rather like a Baillie-Scott interior. The hangings were in blue and buff. The panels which replaced them have as their crowning mould that persistent motif which is found in all sorts of Edwardian Architecture from the Neo-Wren to the Art Nouveau. With their inlay and marquetry work, too, the panels are like the back of the chair designed by Ambrose Heal for Joan Drummond Angus which was exhibited in 1952 at the V and A in the Exhibition of Victorian and Edwardian Decorative Arts. The Bishop's chair and one of the brass Candelabra from Warley also went to that Exhibition and were in the section dealing with Edwardian Ecclesiastical Design. These Candelabra are similar in shape to the single shafts of the chapel screen, but with modelling of the feet like those of the chancel screen. Harrison Townsend's joinery is everywhere excellent, precise yet robust. The pew ends are most uncommon with billowing outline and pleasingly quirkish mouldings. The choir stalls are more angular in outline with ornament used in that taut and purposeful way so typical of his work. The brittle leaf ornamentation is markedly similar to that at the Whitechapel Art Gallery.

A principle of design throughout at Warley seems to have been to keep to the customary elements of church architecture, but to detail them in such a way as to engender surprise only after closer examination. This was a common feature of Art Nouveau work which so often appears eerie and also has a queer hint of cruelty (all quite



1, the interior looking east.

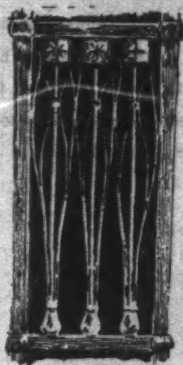


2, plan of the church.

unintentionally I should imagine). Can it be due often to the use of plant shapes assembled in an unnatural or symmetrical manner. Take, for instance, the side chapel screen, perhaps the most completely Art Nouveau item here, it has some of this quality, finely wrought, conventionalizing of the forms of the oriental poppy though we know it to be. Once the curious assemblies within the outlines of such work have been revealed, the appearance of the whole to the observer becomes transformed and what has earlier seemed no more than tracery is now seen as an assembly of grimacing faces or menacing forms in the way that overpatterned wallpapers may

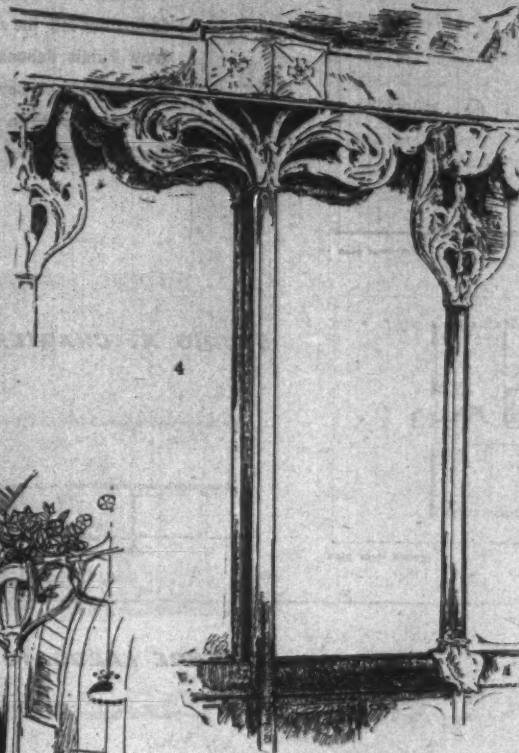
appear so to a fevered child. This sportive detailing within basically conventional outlines is also evidenced though not in as extreme a manner in the handling of belfry, west end, porch and lych gate.

Then again, Reynolds-Stephens' pedestal statues of children, his 'Castles in the Air,' for instance, are delicate and finely wrought, if sentimental, pieces. His angels here are all that, but have a more haunted Arthurian quality. They, too, are dressed as for Rossetti's Florence. It is in their silhouettes not their detail that strangeness is apparent. The quotation from James Stetham's description of the painting 'The Wedding of

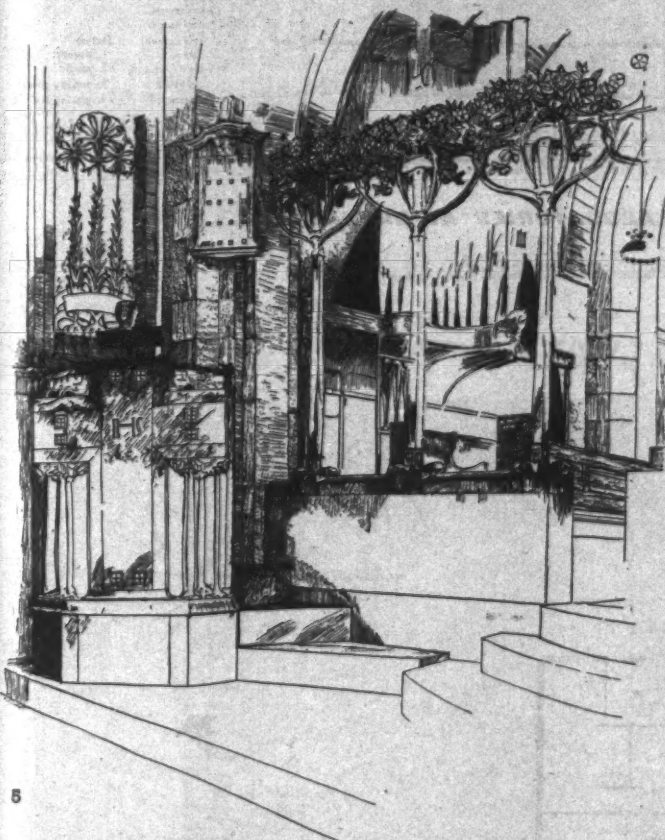


3, detail of the organ.

4, detail of screen to side chapel.



4



5

5, chancel screen and pulpit.

6, embroidery on the hangings on either side of the organ console.

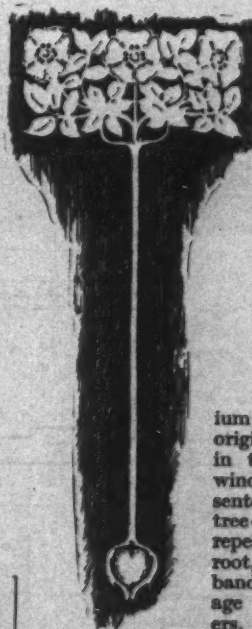
St. George' quoted by Ford Maddox Hueffer in his book on Dante Gabriel Rossetti evokes an atmosphere that is present here in some measure.

'One of the grandest things, like a golden dim dream, love credulous all gold; gold armour; a sense of secret enclosure in "palace chambers far apart"; but quaint chambers in quaint palaces, where angels creep in through sliding panel doors and stand behind rows of flowers, drumming on golden bells with wings crimson and green.'

There is a whole choir of little angels in this church, each with six wings as in Isaiah's dream. They appear on the memorial

tablet to Arnold Heseltine, on the alms box, on the hymn boards and round the dado of the apse. The belfry has a tinkling carillon. When it plays all becomes so other-worldly that the church can easily be imagined to have walls of brown bread and pineapple chunks and a gingerbread steeple.

The design of the original windows was subordinated to the theme of the whole scheme of decoration. With them, the jewel in setting principle was used, by having only incidents of colour in surrounds of plain glass. The apse windows (which have survived; and are White friars glass made by Hogan) are themselves jewels in the setting of the whole alumin-



6

ium apse. The original glass in the chapel window represented 'The tree of Life' and repeated the root, tall stem, band of foliage with flowers, motif. It was all lightly

handled. The replacement, full of red-robed angel figures (the designers of the replacement windows have taken up the angel theme and worked it to death) is overpowering in this setting of subtle colourings. There are robed figures, two kneeling, one erect, in the three lancet windows now in Brentwood School Chapel. They, too, are red, against a background of green foliage and blue sky with white stars; but figures and their coloured backings have been kept to small panels in the centre of each light. The rest is mostly plain

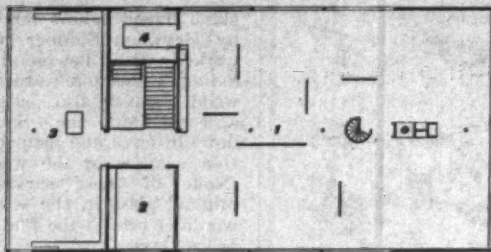
glass. These windows were designed by Heywood Sumner (who had worked with Townsend at All Saints', Ennismore Gardens). Heywood Sumner also designed the apse windows, the original windows in nave and chapel and the rose window in the west gable. (None of these survive.) The original glass in the seven small windows behind the font were by Louis Davis.

In the account of the work at Warley in 'The Studio,' which I quoted before, is written:—

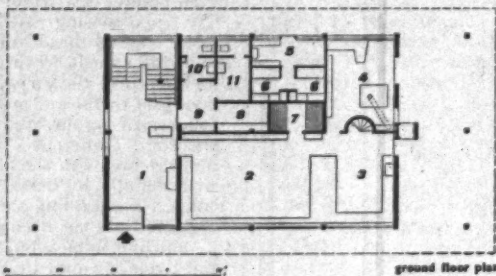
'By juxtaposing surfaces of stone, wood and metal by relieving salient features in the architectural design with overlaying of metal and with subtle touches of colour, and by contrasting different coloured marbles one with the other, and with details in brass, steel or copper, a charming shimmer of delicate tints has been produced in which nothing is out of line or right relation and in which the necessary accents tell to their full value. Moreover, by this use of natural materials the permanence of the whole scheme is assured. There is no fear that time or wear and tear will upset a carefully devised arrangement by establishing unexpected colour relations or by dulling into invisibility what were intended to be the keynotes of the harmony.'

If it had not been for the war-time loss of the glass, we would still have that carefully devised arrangement. The presence of 'temporary' clear glass in some of the windows harms that arrangement little. With such a completely conceived scheme, it becomes essential that all should remain as its authors intended. Just as in its programme as a memorial it was required to emphasize life and resurrection (a mental embalming in fact), so the building, to preserve its impact, has also to be embalmed. The 'culture' in which the building is raised has to be preserved or the illusion will be shattered. Despite all the emphasis on growth and life as a theme in this building, such a complete and single-minded scheme is almost incapable of absorbing any changes. So completely of its time and so meticulously conceived as it is to express one idea, any additions of routine church art are bound to lessen its effectiveness as a work of art to an extent out of all proportion to the amount of the addition.

All this, and the fact of the inevitably limited life that a building has, makes a piece of architecture one of the more fragile forms of art. It cannot be decoded and performed by future generations as can music or poetry. A painting, being two dimensional, can be recorded by two dimensional means and in this way posterity can receive much of the original impact. With a building, not so. Like a human being, though it be carefully reared or have its maturity prolonged, it will still die.



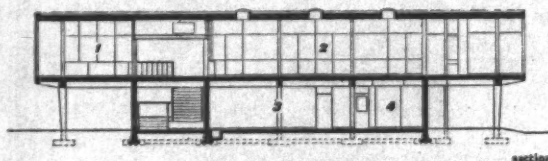
first floor plan



ground floor plan

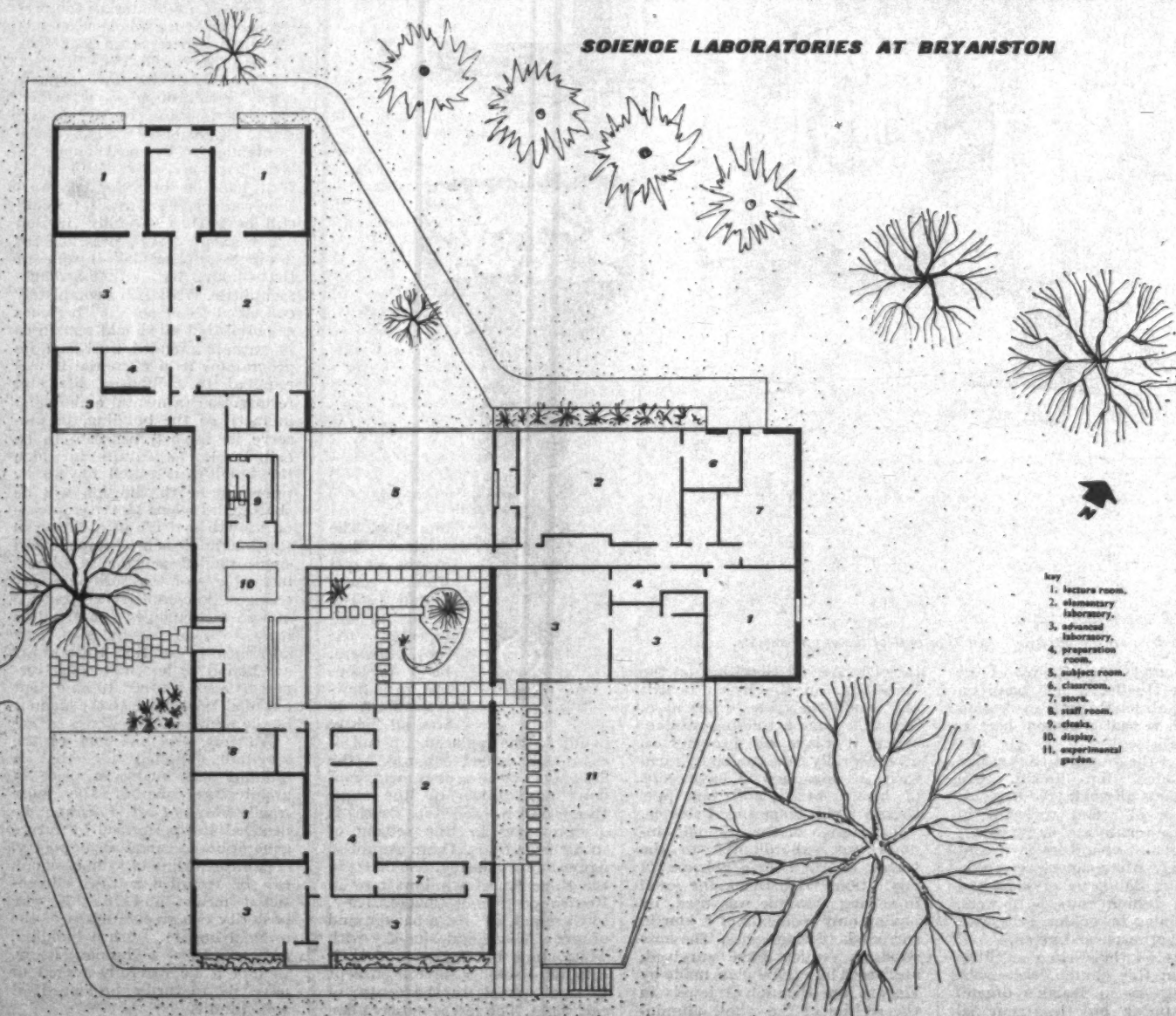
With one or two notable exceptions, the revolution and revival of British school design has left the main repositories of the English educational tradition—the great Public Schools—completely untouched. In the last few years, however, the pressure of new or newly-important subjects, and of changed teaching methods, has begun to evoke a response, exemplified by these recently-completed blocks for science and art at two of the more progressive public schools.

STUDIO AT CHARTERHOUSE



- | key | |
|-----------------------|--------------------------|
| Ground floor. | First floor. |
| 1. entrance hall. | 1. studio. |
| 2. pottery room. | 2. art master. |
| 3. glazing bay. | 3. library-lecture room. |
| 4. kiln room. | 4. assistant. |
| 5. photo room. | |
| 6. darkroom. | |
| 7. clay store. | |
| 8. store room. | |
| 9. lobby. | |
| 10. men's lavatory. | |
| 11. women's lavatory. | |
| | Section |
| | 1. library. |
| | 2. studio. |
| | 3. pottery room. |
| | 4. glazing bay. |

SCIENCE LABORATORIES AT BRYANSTON



- | key | |
|---------------------------|--|
| 1. lecture room. | |
| 2. elementary laboratory. | |
| 3. advanced laboratory. | |
| 4. preparation room. | |
| 5. subject room. | |
| 6. classroom. | |
| 7. store. | |
| 8. staff room. | |
| 9. cloak. | |
| 10. display. | |
| 11. experimental garden. | |



1

1. the entrance hall with window of art-master's room above and studio window to right. The first floor slab is faced with Welsh blue slate, the roof fascia of ribbed asbestos cement, the cladding of utile mahogany.
2. the display wall in the entrance hall: fairface Uxbridge flint bricks with raked joints, mahogany slatted seat on cantilevered R.C. slab, wrought iron stays to support pictures and other exhibits—in this case a relief by John Wragg.

STUDIO AT

CHARTERHOUSE SCHOOL SURREY

ARCHITECT

JAMES DARTFORD

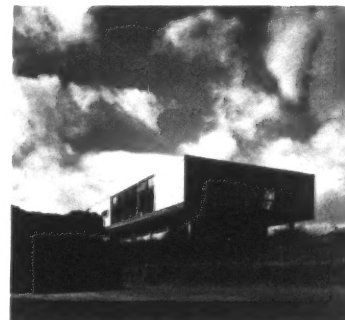


2



3

STUDIO AT CHARTERHOUSE SCHOOL



4

3 and 4, two views of the southern face of the block, showing the cantilever of the upper floor which, at the east end, 4, almost overhangs the playing field on the lower level.

5, interior of the main studio on the upper floor; the vertical poles on a 6 ft. 6 in. grid carry demountable screens for display purposes. One of the purpose-designed storage units for canvases, boards, etc., can also be seen.



5

In order to free accommodation elsewhere in the school for the extension of the science laboratories, the clients required a new block to house art, photography and pottery, workmanlike in atmosphere and in acknowledged contrast to the existing dark masses of Victorian buildings. The lower floor houses the photographic dark-rooms, pottery rooms, lavatories and store, while the upper floor, which cantilevers out all round, contains a large studio, library/lecture room, and rooms for the art-master and his assistant.

The structure consists of a reinforced concrete frame, with brick infill on the lower floor, carrying the first-floor slab, on which is mounted a steel frame for the

upper floor and roof; electric heating cables are embedded in both floors. The same hardwood (utile mahogany) is used for exterior cladding on the upper floor, for window and door trim and interior joinery. There are no plastered surfaces, internal brick and concrete walls being fair-faced, ceilings of natural and painted concrete or suspended fibre-board panels: junctions between surfaces are "negative detailed," i.e. with uncapped recesses.

The landscaping, which is not yet completed, will include a paved forecourt to the south of the art block, with low walls of local stone, and is intended to tie the new work into the existing surroundings.

SCIENCE LABORATORIES AT BRYANSTON SCHOOL, DORSET

ARCHITECTS

ARCHITECTS CO-PARTNERSHIP

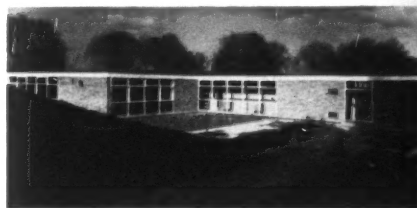
Bryanston School's science-teaching facilities were housed in unsuitable buildings originally designed as stables, and the function of the new block is to re-house the entire subject in more efficient and congenial surroundings. The three sciences taught are Physics, Chemistry and Biology, each housed in roughly similar wings of the structure, and having its own lecture-room, elementary and advanced laboratories, with ancillary classrooms, stores, preparation rooms, workshops, etc., as required. Each wing is of one storey, and the three come together at a central nucleus consisting of a main "Subject Room," used for consultations between staff and pupils (following the Dalton system which is employed at Bryanston) and an enclosed court contain-

ing a pool which is used by the Biology section (as is an experimental garden on the other side of the Biology Wing).

The structure is of load-bearing brick, but the wooden mullions of the large areas of window also help to carry the weight of the roof, which is of ply-wood trough beams. The external bricks are hand-made Leicestershire multi-golden browns; all external woodwork is painted white and the aluminium eaves angle is black. Internally the walls are fair-face brick or plastered, with p.v.c. tiles in circulation areas, p.v.c. sheet in laboratories and quarry tiles in preparation rooms and stores. The Subject Room, which is fully glazed on both sides, has sapele block floors.

1. general view of the main entrance side from the south-east, with the physics wing and connecting corridor to the left.

2. the central corridor, with Subject Room beyond, seen from one of the causeways crossing the biology pool in the central courtyard. The pool functions as a teaching area, housing various reptiles and amphibia.



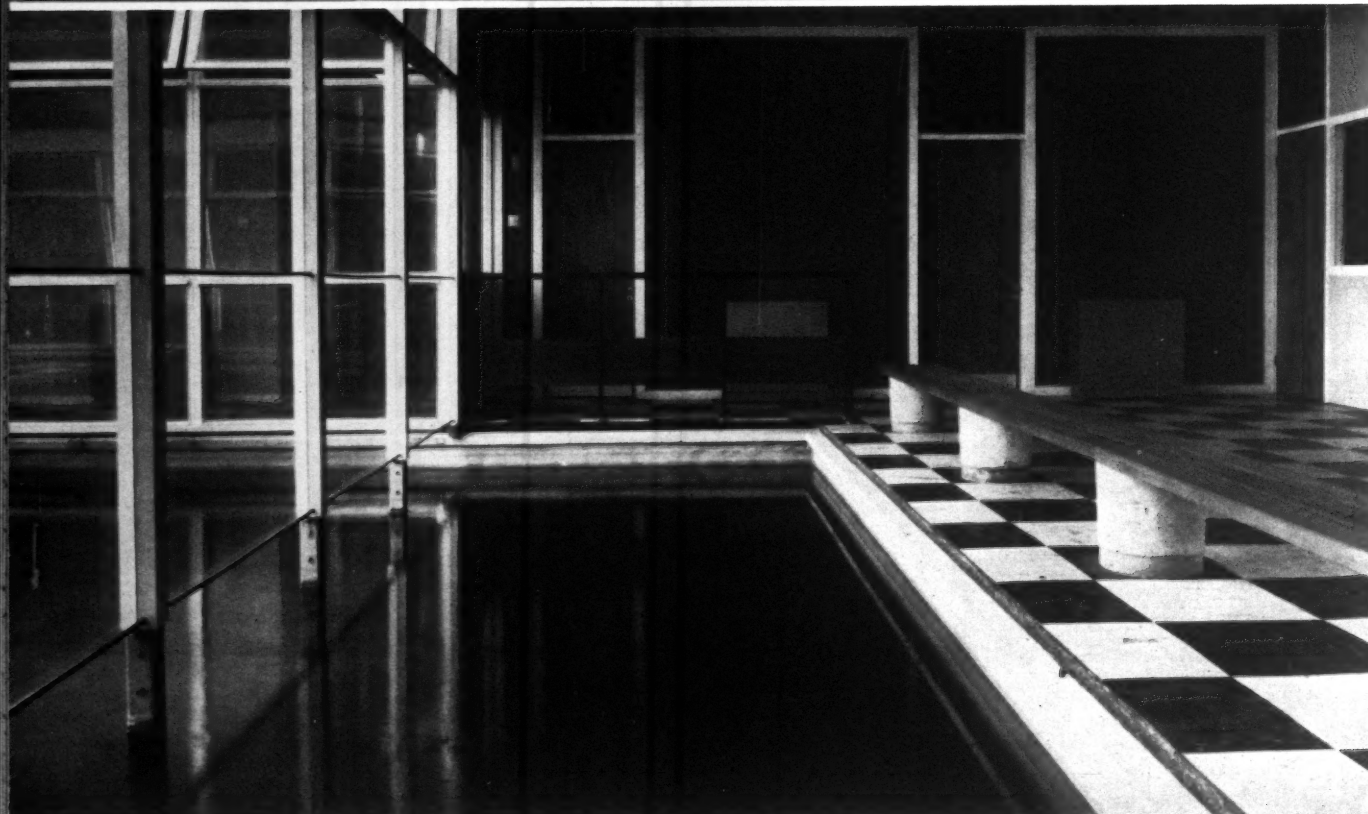
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2



3



4

3 and 4, two views of the pool, showing its extension under the glass wall into the central hall. The corridor on the far side of the water leads directly to the elemen-

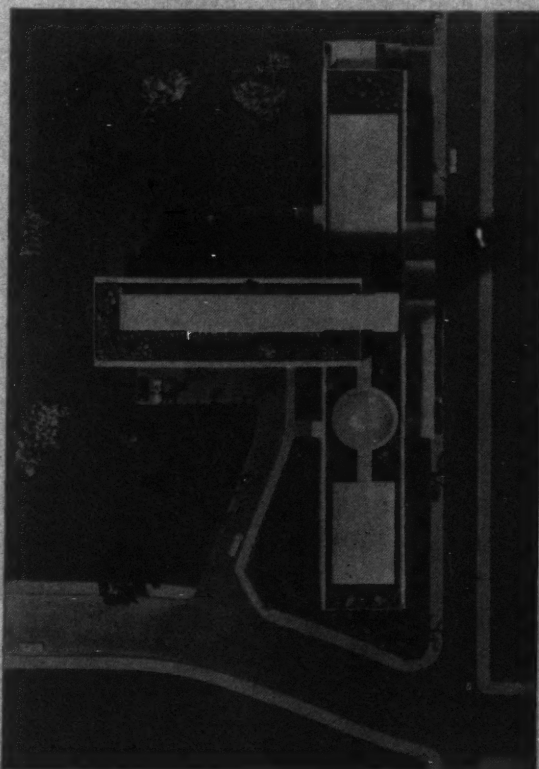
tary biology laboratory, to which the pool is an adjunct. The tree in 3 is a fine beech which it was decided to retain, thus necessitating a slight re-orientation of the building.

HOSPITAL AT SAO PAULO, BRAZIL

ARCHITECT RINO LEVI

1. insolation diagram, giving the hours (shown cross-hatched on the time-bands) when the sun shines on the north-western face of the ward block, the side on which patients' beds are situated.

Some problems of hospital design are world-wide, but the important project previewed below has specific local problems too. One is sun-control, the other is accommodating patients' relatives within the wards.



2. air view of the architect's model: the shorter arm of the T-plan is the 13-storey block containing the wards.

This project has its origin in a competition—in which it gained first prize—organized on behalf of the Albert Einstein Benevolent Society, which was set up by the Jewish community in Sao Paulo in order to create a suitable memorial to the great physicist. It is intended to accommodate 326 in-patients irrespective of race, creed or means, and to provide out-patient and teaching facilities on a comparable scale. Particular attention was given throughout the design-process to the creation of an atmosphere propitious to the psychology of recovery. To this end, nearly three-quarters of the total site area has been left clear for gardens and planting, while within the building itself everything possible has been done to avoid creating environments that are oppressive, severe or dark. The interiors have been made as light, transparent and agreeably colourful as possible, while the wards have been designed and oriented so as to give maximum value to the fine panoramic views commanded by the site.

These fundamental intentions have affected the basic organization of the whole building complex. The ward block stands thirteen storeys high, and all the bed-areas (except those for maternity cases) are high enough to be able to see the view over the roof of the three-storey block, at right angles to the wards, which houses out-patient services, etc. In addition, the bed areas have been placed on the north-

HOSPITAL AT SAO PAULO

western face of the tall block, not only for the view, but also for maximum afternoon sun, and maximum shelter from the cold, wet south-easterly winds which

—together with morning mists—constitute the main climatic hazard from the medical point of view.

The south-eastern face of this tall block is accordingly occupied by stores, treatment rooms, sluices, nurses' stations, ward-kitchens and similar services, separated from the bed-areas by a corridor running slightly off-centre the length of each floor and connecting with the lift tower at the end of the block. The planning is based on a 120 cm. module governing all the structural components, and the spacing of the columns at six-module intervals gives a basic subdivision of the ward floors into units accommodating six beds, while the next stage of subdivision, by a partition half-way between columns, gives three-bed units, two-bed units with additional services and private apartments. These last two types of subdivision are made necessary by the custom, which still obtains in many latin countries, of having a relative or other companion of the patient live in the hospital with him, either for comfort or service. The provision for this is not large—there are thirty-six beds provided for such purposes—but it is large enough (ten per cent of all beds provided) to require

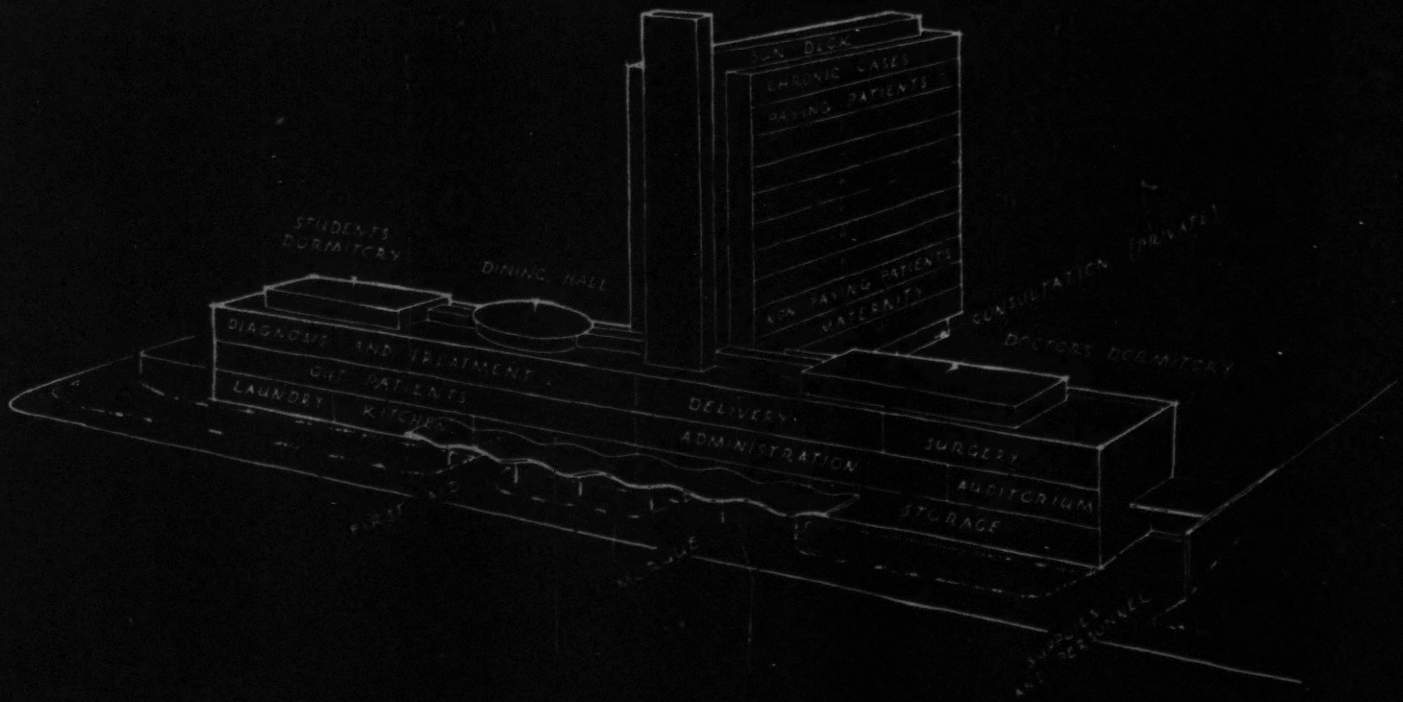
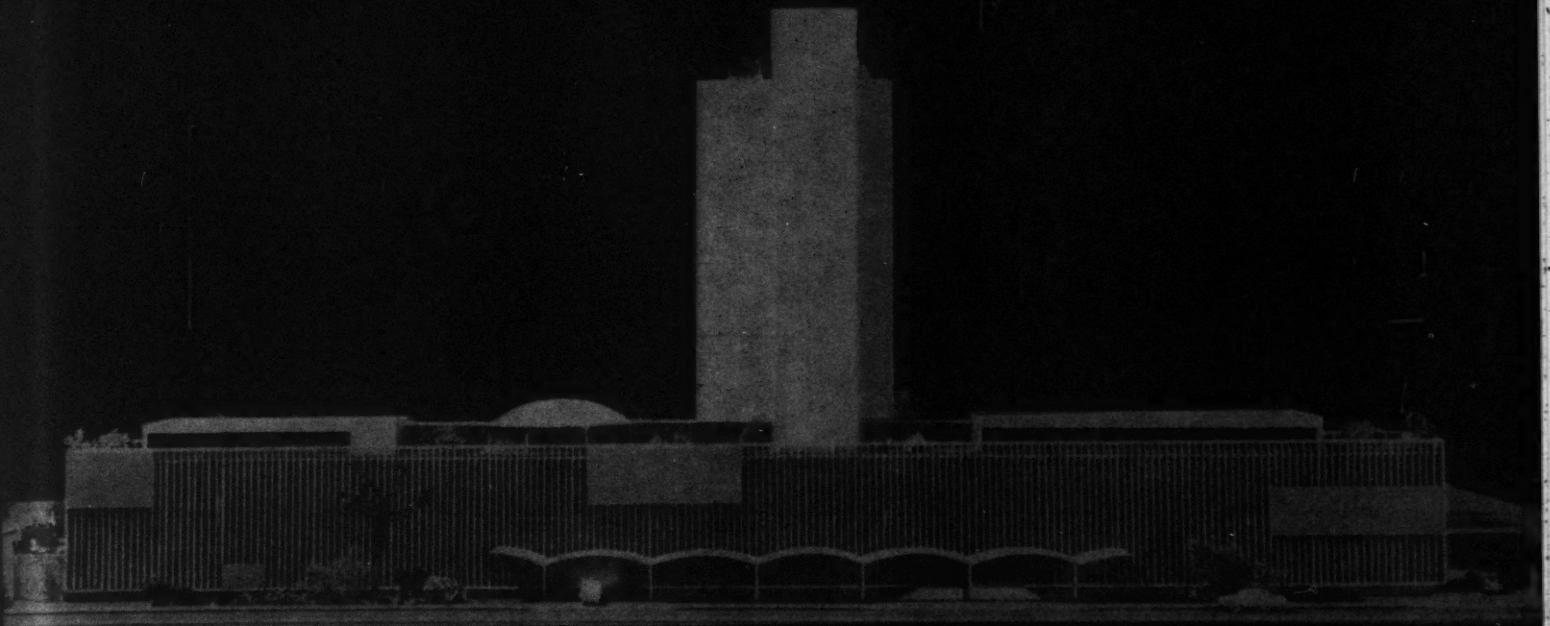
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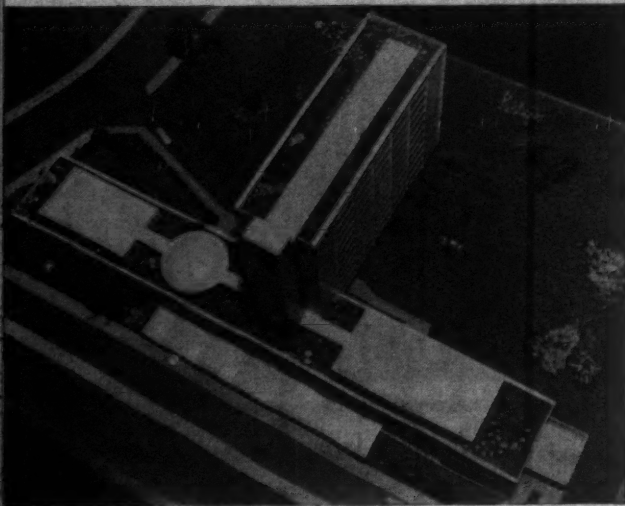
3, a sketch of the view between the two rows of pilotis supporting the ward block, looking from the entrance to the consulting-rooms towards the main entrance of the hospital.

4, the model seen from just east of north, with the ward-block, centre, and the casualty entrance to its right in the low block. The main access road enters the site from the right, and passes under the ward-block, which has car-parking spaces on either side of it. 5 and 6, opposite, a view of the model from the south-west, and a diagrammatic breakdown of the distribution of facilities inside the blocks. The vehicle, mortuary and casualty entrances on this side of the block are a floor lower than those on the main-entrance side.

4







7

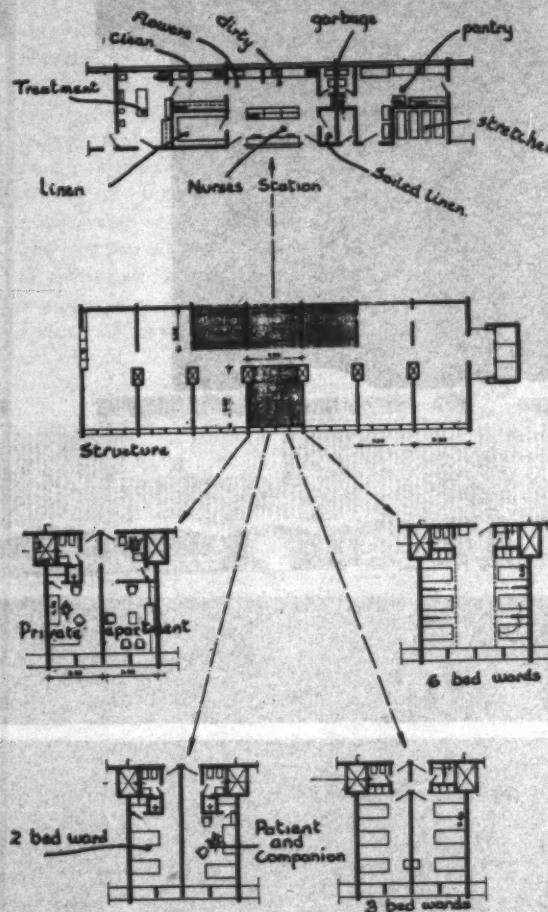
special attention to be paid to it in planning the ward-floors, and it is of particular interest in Britain at the moment, now that certain pediatricians are proposing that mothers should be able to sleep in when children are in hospital.

The accommodation in the lower block, which consists of two storeys clear above ground (with roof-top dormitories for medical staff and students) and one storey partly excavated, includes stores, kitchen, laundry and mortuary at the lowest level, administration and out-patient facilities above them, and diagnostic, surgical and obstetric rooms on the highest full floor. All are centred around a circulation nucleus in the middle of the block, from which point the lift-tower to the wards ascends. Private consulting rooms are grouped between the pilotis of the ward block, opposite the main entrance to the hospital.

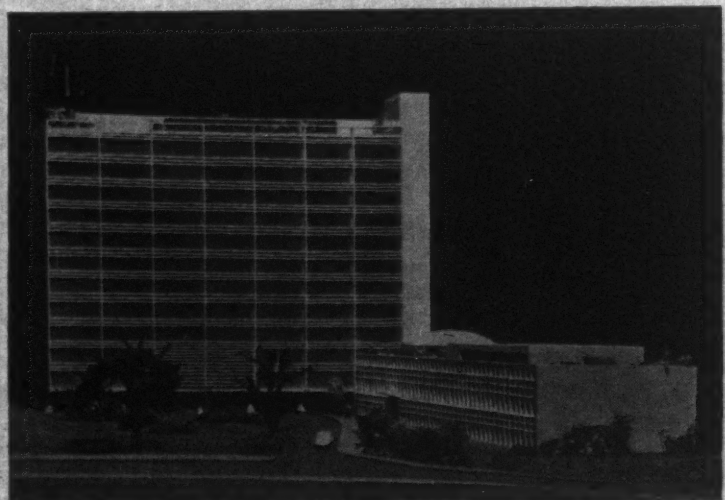
7, air view of the model from the south; the solarium running along the top of the tall ward block corresponds plan-wise to the position of the main corridors of the wards below.

8, diagrammatic breakdown of the elements of a typical ward-plan: any of the basic modular ward-units can be fitted into any structural bay, but on most floors the distribution is six units of three beds, four of two beds, and four "apartments" (one of them de luxe) to accommodate relatives staying with patients.

9, view of the model up the main approach road, which can be seen passing under the ward block. The two-bay, two-storey interruption of the regularity of the brise-soleil at first and second floor levels corresponds to the position of the nurseries for babies in the maternity wards on those two floors.



8



9

ID

Offices In Queen Anne's Gate, London, S.W.1

architect: Ion McCallum

These offices for the Architectural Review are part of the third floor of three eighteenth century houses, 9-13, Queen Anne's Gate, Westminster.

The ceilings are low and none of the spaces is very large so an attempt has been made by the use of louvred screens, floor-to-ceiling mirrors and a variegated and variable lighting system, to 'dissolve' the solid walls and provide an illusion of continuing space.

1, overpage, is a view of the executive editor's office. The existing room was divided into 2/3 and 1/3. The larger part is the reception and desk-work office, the smaller part the design room and workshop. On the facing page, below, is an 'attic' view of the redesigned offices.

2, entrance lobby surfaced with book-backs of Architectural Press publications. A panel of smoke-grey glass divides the secretary's office from the lobby; cut into it is a draught-excluder, speaking-panel.



4

3, on the right, the workshop area of the executive editor's office; the layout table is suspended from a beam above the ceiling by chromium-plated rods; it is backed by a black-painted pin-up board. All floors are covered with fawn, grey and black linoleum, with a trompe l'oeil pattern, except for the executive editor's reception office on the left of the photograph, which has a seamless off-white Indian carpet.

4, the executive editor's office from the entrance, with double screen doors open.

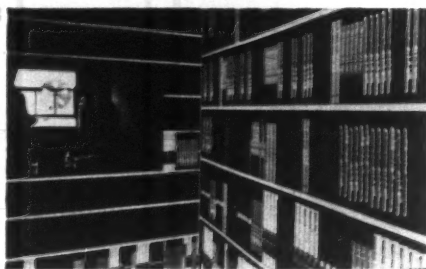
5, looking towards the table desk which, with the independent drawer unit, was designed by Terence Conran. The chair in black tweed with black wire legs is by Charles Eames.

6, on the facing page, the secretary's chair of fibre glass and fawn tweed with satin-chrome legs is also by Eames. Here the 'stable-door' screens are closed across the windows in the far wall. This section of the room is ringed (behind the screens which also serve to conceal cupboards) with warm-white fluorescent tubes, providing, when

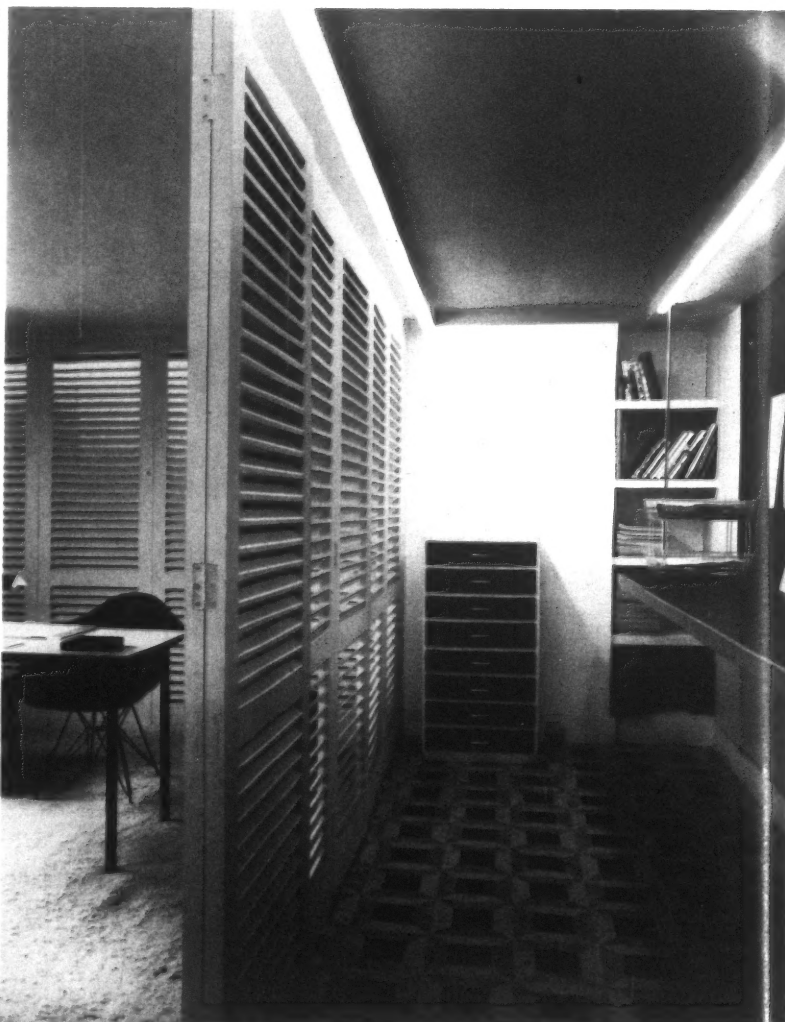
5

all the screens are closed, an artificial environment designed to offset the sometimes depressing effects of the English climate. In slight contrast to all the other redesigned areas which employ mainly black and white for their effects, paintwork is here a 'putty' colour arrived at by mixing black, white and raw umber.

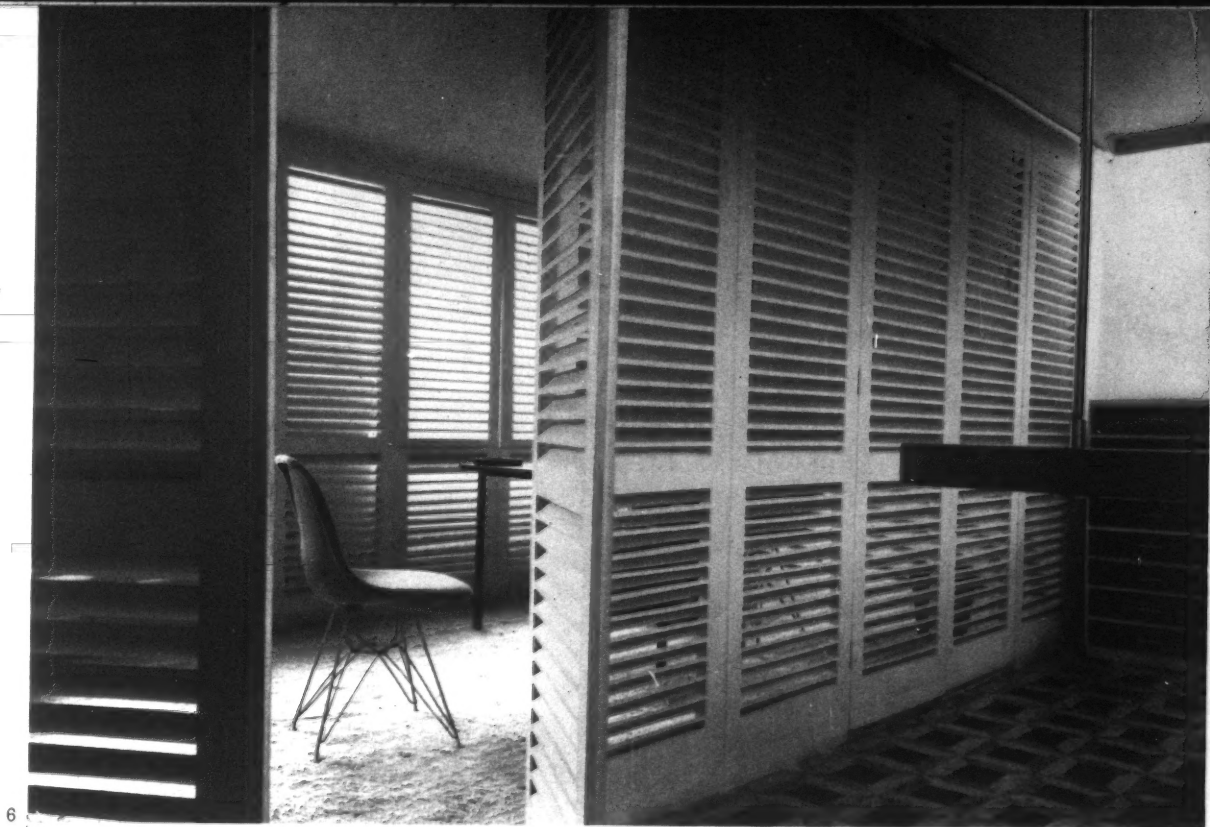
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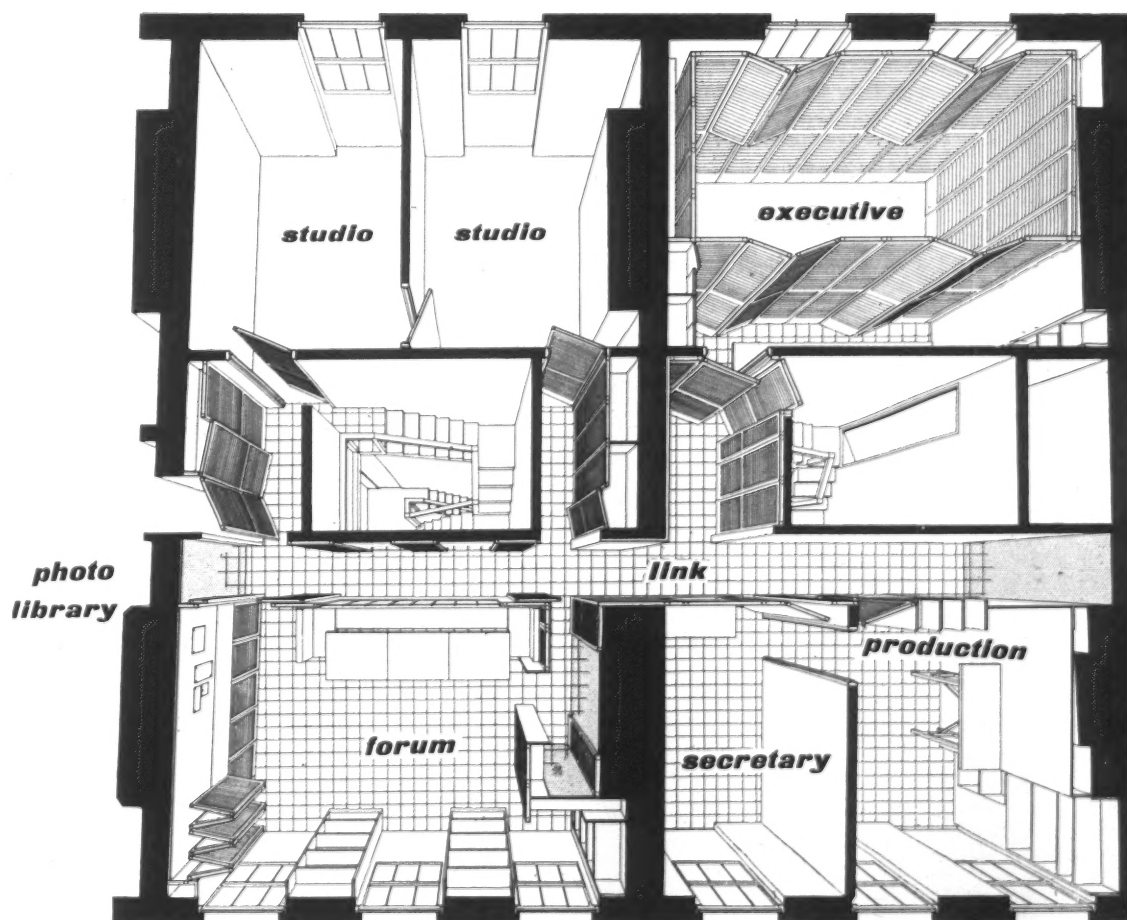
3



Offices in Queen Anne's Gate, London, S.W.1



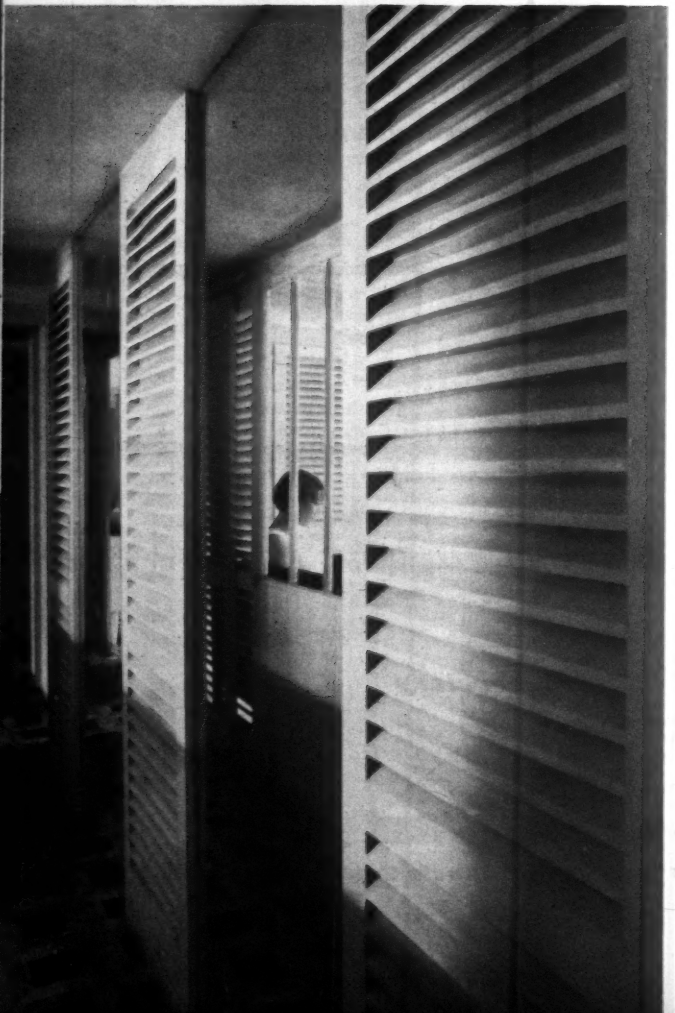
6



attic view of the top floor in 11 and 13 of 9 to 13, Queen Anne's Gate, London, S.W.1
areas of light dot tint indicate reflecting walls.



7
8



Offices in Queen Anne's Gate, London, S.W.1



11

9

10



7, 8, 10, 11, different views of the link passage. 7, looking through the vertically-proportioned 'workshop' window into the Forum, which serves as conference, reading and projection room and magazine store.

8, that part of the link which faces the interior window-wall of the Forum. Fixed, louvred screens alternate with floor-to-ceiling mirrors that 'break into' the wall plane.

9, entrance to the Forum from the link passage is here achieved by two right-angle turns, each vista being 'closed-opened' by a floor-to-ceiling mirror. From the Forum the bookcase on the right is reflected in the mirror on the left (see also 12).

10, and 11 on the facing page, opposite views down the link passage, terminated at each end by floor-to-ceiling and wall-to-wall mirrors, providing an 'endless' perspective. On the left of 11, the louvred door leads into the production room which has a two-way cupboard (out

of view to the left of the picture) giving on to the link passage for the block-makers' and printers' messengers. The first section of the partially completed 'bookwall' beyond is a jib-door opening into the editorial secretary's office.

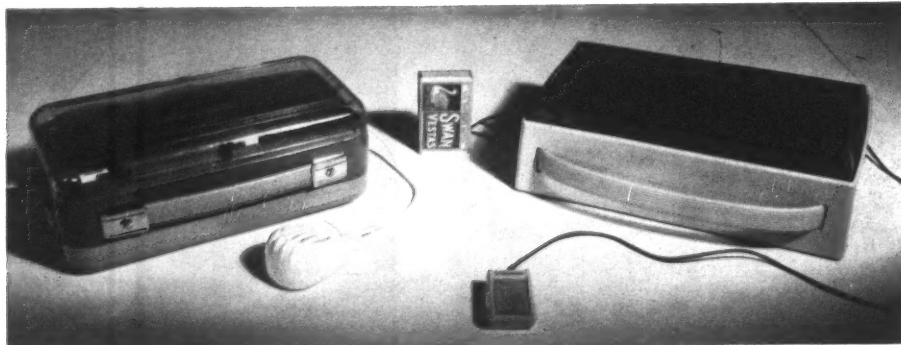
12, in the Forum looking towards one of the entrances; reflected in the mirror is the sliding-folding screen wall shown in 13, behind which is a pin-up board for layout meetings, and providing also a projection screen. The conference table can be separated into three parts, the outer-ends fixing into bookcases, as occasional tables. The three parts are joined together with standard brass D-plates which have been in use for dining room tables since the eighteenth century. The table was designed by Terence Conran.

The ceiling which rises into the roof is covered with natural split-pine lit from concealed lighting troughs in the beams and along the top of the pin-up wall.



DR

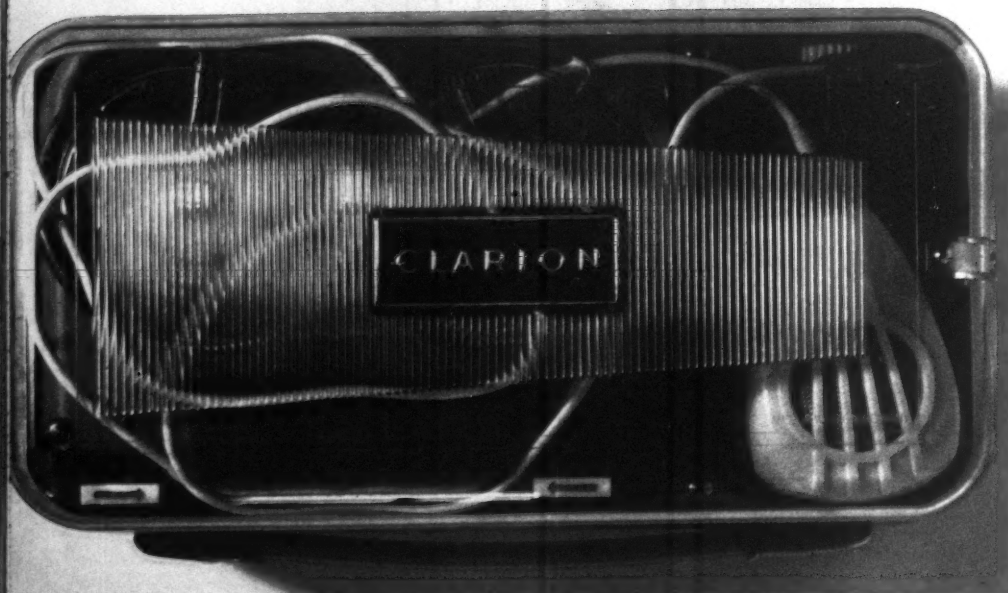
design review



1

2

3



transistorized tape recorders

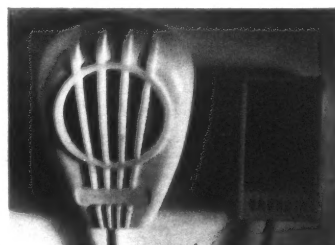
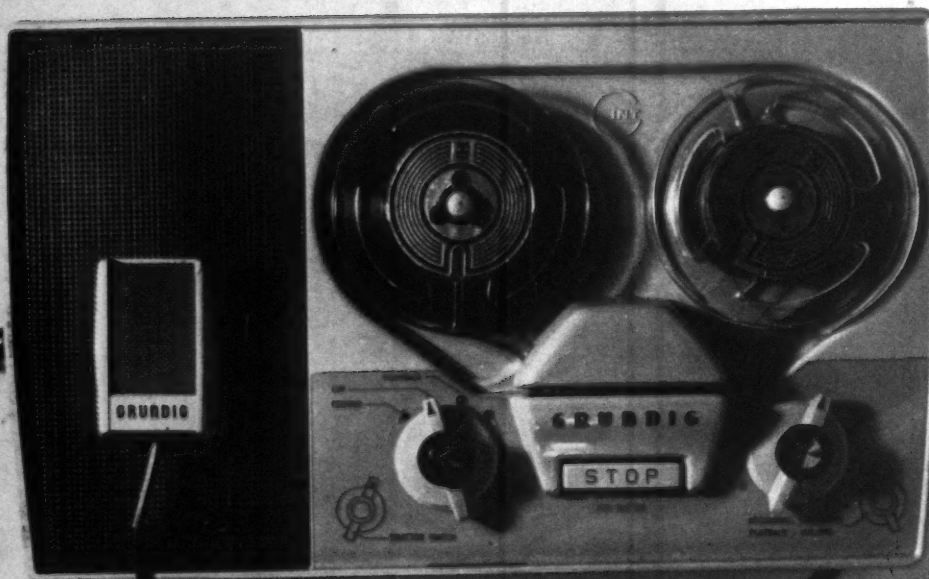
Two small German battery-operated portable tape recorders, which have recently come on the British market, provide an instructive contrast in the packaging of almost identical functions.

1 The Clarion, left, is the more compact and slightly cheaper of the two, at 25 gns.; the Grundig Cub, right, has a slightly better performance, at the cost of being somewhat larger, more complex and a little more expensive at 26 gns. Both use standard tape at standard speed (3 $\frac{1}{2}$ in. per sec.) and both suffer much less than earlier machines of the same kind from unwanted speed-variations.

2 The treatment of the Clarion is a sort of workaday "Borax-vernacular," not unlike that of some electronic instruments, which it resembles also in its "feel" in the hand. It looks (and is) crammed with works.

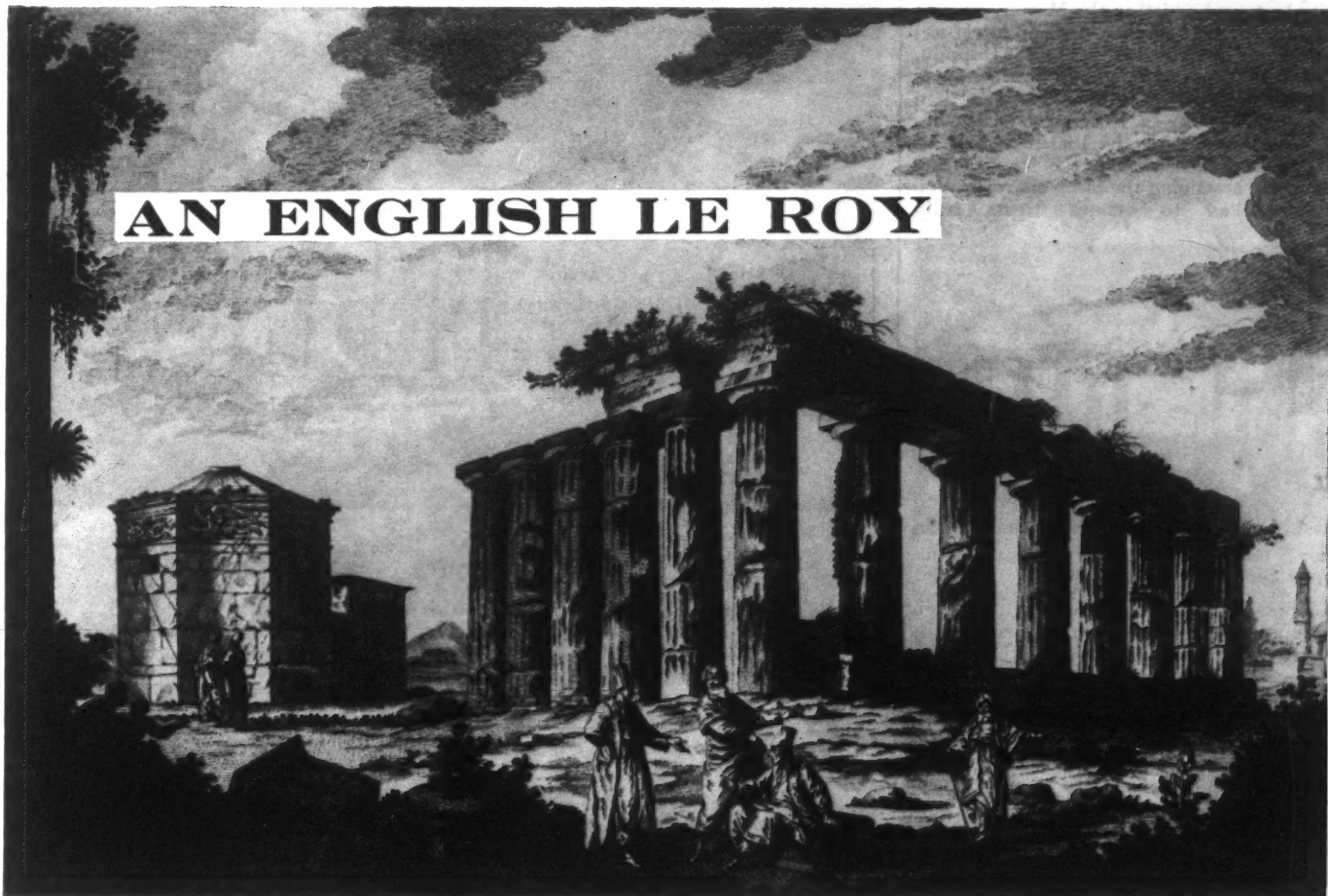
3 The playdeck of the Cub stands closer to the accepted standards of good design. The controls are simplified and conveniently grouped, whereas those of the Clarion are confusingly scattered over the playdeck, the speaker fascia and the outside of the casing.

4 The two microphones, however, show that ergonomic preference cannot go entirely to the Cub, whose tiny microphone (smaller than some types of cigarette lighter) is too small for large hands to manipulate



4

easily. The Clarion's instrument, while unlikely to win design-prizes, is much handier, though the Cub's microphone could not be brought up to this size without altering the lid of the casing.



The startling confrontation, above, of a "Temple of Corinth" with the Tower of the Winds in Athens, comes from what must now be admitted as the pioneer English publication in the neo-Classical movement—an opportunist plagiarization of Le Roy's *Ruines* which appeared as early as 1759.

The publication of J. D. Le Roy's *Les ruines des plus beaux monuments de la Grèce* in 1758—four years before the first volumes of Stuart and Revett's *Antiquities of Athens* appeared—was a milestone in the history of Neo-classicism because the measured drawings engraved in it were, if not altogether accurate, at least the first measured drawings of ancient architecture on Greek soil to be made available to eighteenth-century architects. No account of the movement, so far as I know, mentions that what can be broadly described as a plagiarized English edition of Le Roy's work was published in London in 1759. The fact gains significance when it is remembered that the Parthenon, included by Le Roy, had to wait until 1789 for publication in the *Antiquities*¹, and the general interest of the book may be held to justify what amounts to a belated footnote or postscript to Pevsner and Lang's

study of the revolution in taste that made the Greek Revival possible².

Its title is *Ruins of Athens, with Remains and Other Valuable Antiquities in Greece*; the imprint reads: 'London: Printed in the Year MDCCLIX. For Robert Sayer, opposite Fetter-Lane, Fleet-Street.' It is a folio, and the only copy I have seen, in the possession of Colonial Williamsburg³, is bound up with Chambers' *Treatise on Civil Architecture* and *Designs of Chinese Buildings*—a combination that would not have been pleasing to Sir William!

Sayer, a prolific publisher of architectural books⁴, was doubtless moved in part by a desire to forestall Stuart and Revett's long-awaited work. The preface

¹ N. Pevsner and S. Lang, 'Apollo or Baboon?' *THE ARCHITECTURAL REVIEW*, CIV (December, 1948), 271-9.

² It is incomplete, lacking the frontispiece (plan of Athens) and most of the measured drawings. It contains all the views.

³ He published William Halfpenny's books and, among books by other authors, Robert Morris's *Lectures on Architecture* and William Pain's *Builder's Companion*.

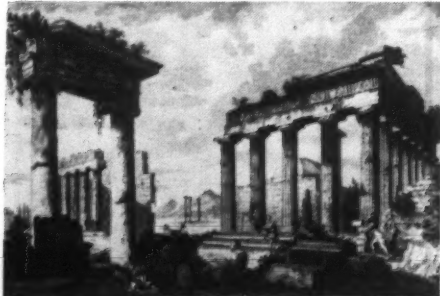
is a curious document. Although the unnamed author praises Le Roy and says that he 'cannot help acknowledging' that 'the Public would have less wanted this Work, had *Le Roy* returned the Compliment paid his Countrymen by the Publishers of Palmyra and Balbec,'⁵ no-one would gather that the book could not have been put together without Le Roy's; he goes so far as to claim that the '*Plans, Elevations, Profiles, and Architectural Remarks*, are attended with that Precision . . . as even to correct Mons. *Le Roy* . . .' In the last paragraph he acknowledges an indebtedness to Sir George Wheeler, 'that learned and judicious Historian.' Since Spon and Wheeler's *Voyage d'Italie, de Dalmatie, de Grèce et du Levant* had appeared more than eighty years before, in 1678, this comes as something of an anticlimax.

The aesthetic terminology, however, is

⁵ Wood and Dawkins published editions of both their works with French texts, and Le Roy praised them for this.

¹ Volume II did not appear until that year, though dated 1787.

noticeably up to date. The book, it is hoped, will be 'capable of aiding the Student, and assisting the Master, even to acquire in that Science (i.e., architecture) what may be termed *the Sublime*.'⁶ Happily, it is able 'to accommodate the Students in this Art' by being much cheaper than Le Roy's book—a Difference partly obtained by reducing the Plates to half his Number; which yet, in the Views, from properly arranging the Subjects, with such Liberty as to render them truly



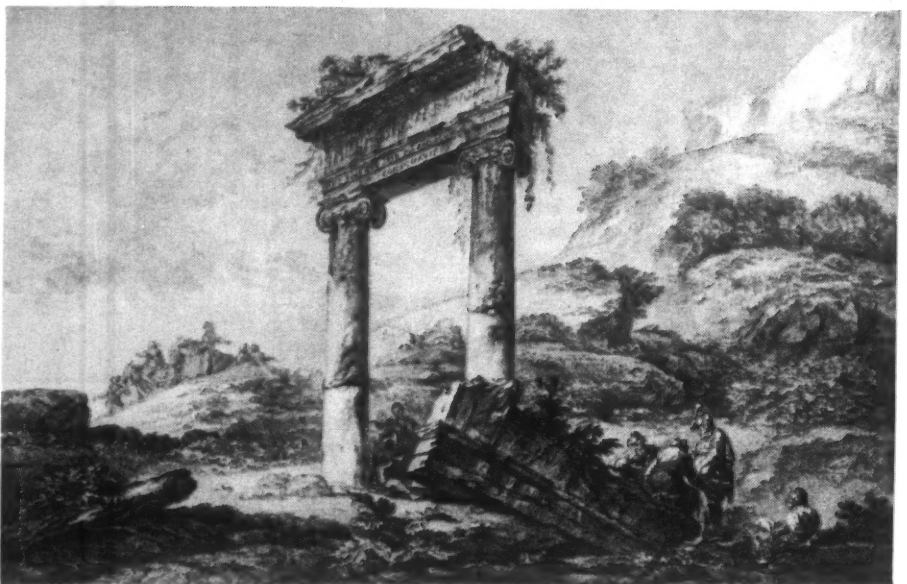
1, the 'Temple of Minerva,' in fact the Parthenon, from Sayers' Ruins of Athens.

picturesque, a more agreeable Aspect is obtained, without one single Object worthy of Note, being omitted.'

In fact the book contains a total of twenty-seven plates as against the seventy of Le Roy's, with twelve as against twenty-four 'views.' The kind of liberty taken in 'properly arranging the Subjects' of the latter is sufficiently exemplified by the two plates reproduced here. Plate 3, 1, is described as 'Temple of Minerva, with Hadrian's Aqueduct'; plate 10 (frontis) as 'Temple of Corinth, and Tower of the Winds.' In 1, the 'Temple of Minerva' is of course the Parthenon, while 'Hadrian's Aqueduct' is a monument (since destroyed) that stood at some distance from Athens at the foot of Mount Anchesmus; the liberty taken in the frontis is too obvious to require comment. Such lighthearted removal of buildings and other monuments from one site to another may seem odd to us today, especially when it occurs in what purports to be a serious work of classical archaeology. In the eighteenth century, however, the practice was indulged in not only by recognized specialists in the *capriccio*, of whom Giovanni Pannini is the best known, but even by artists as topographically inclined as Canaletto, who on one occasion removed the statue of Charles I from Charing Cross to a site beside the Banqueting House and on another transferred the horses over the west door of St. Mark's in Venice to columns in the Piazzetta.

The derivative nature of the plates will be appreciated when 1 is compared with 2 and 3, which are Le Roy's versions

⁶ My italics. Burke's *Philosophical Enquiry into the Origin of our Ideas of the Sublime and the Beautiful* was first published in 1756.



2 and 3, Le Roy's drawings of the Parthenon and 'Hadrian's Aqueduct,' which were adapted by Sayer in 1.

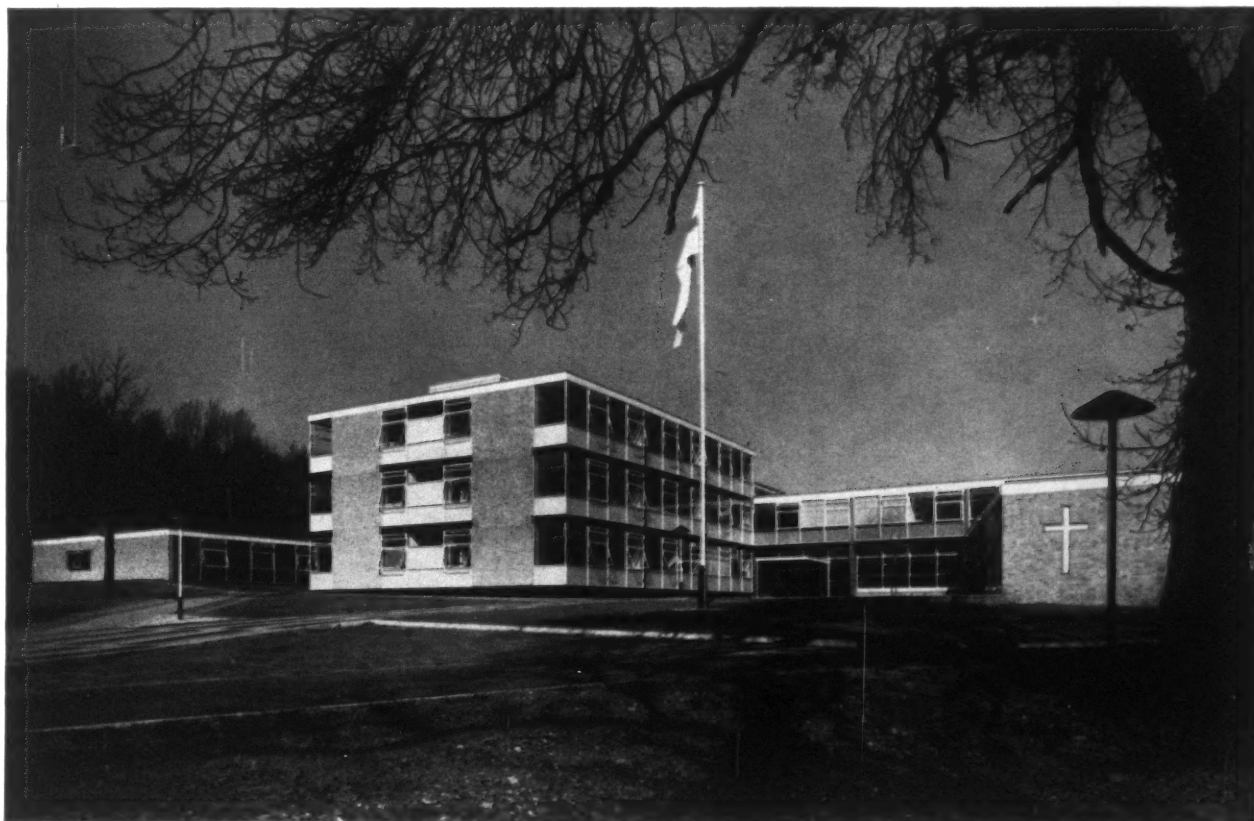
of the buildings shown in it. The text is much shorter than Le Roy's. In places it is a literal translation; where it differs it is usually for the worse. Most of the qualitative judgments are Le Roy's: for instance, his '*très-médiocre*' (of the Arch of Hadrian) becomes 'but indifferent.' But we are told that the Parthenon 'is not only the chief Ornament of the Citadel, but for Matter and Art, the most beautiful Piece of Antiquity remaining in the World,' and this sentiment is not to be found in Le Roy's account of the building.

Since this book is now so rare, one may assume that it was not very influential.

However, Thomas Jefferson had a copy, which went to the Library of Congress; it was still there in 1849, when it was catalogued under Le Roy as author, but has since been lost⁷. And in the British Museum there is a volume, published in 1764 at Augsburg, entitled *Ruinen und Ueberbleibsel von Athen nebst andern merkwürdigen Allerthümern Griechenlands, herausgegeben von M. R. Sayer, mit einem . . . kurz verfassten historischen Auszuge nach dem Englischen Original verfertigt . . . von G. C. Kilian*.

⁷ See E. Millicent Sowerby, *Catalogue of the Library of Thomas Jefferson* (Washington, 1955), IV, 367.

current architecture recent buildings of interest briefly illustrated



1, the school from the south east, showing the three storey classroom block with the practical rooms beyond.

SCHOOL AT SWAYTHLING HAMPSHIRE

ARCHITECTS: RICHARD SHEPPARD, ROBSON AND PARTNERS

The site is on the outskirts of Southampton in a pleasant rural setting, although the site had been used for gravel excavation, which made foundations difficult. The school consists basically of four parts; a three storey teaching block; a two storey assembly hall block; gymnasium and changing rooms; and a single storey practical block.

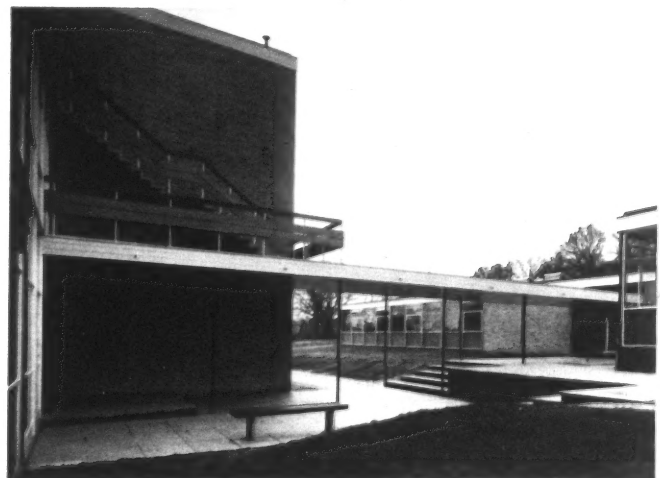
In situ bored piles were used to the three and two storey blocks and strip foundations elsewhere. Generally, superstructure has 9 in. loadbearing cross-walls with 10 in.

hollow-pot reinforced concrete slabs. The roof consists of 3 ply mineralised felt on boarding on 12 in. by 2 in. timber joists with 1 in. fibreglass insulation and perforated hardboard ceilings. Steel frames are used over large spaces in the Assembly Hall and Gymnasium. External walls are metal window glazed for full height and set in hardwood subframes with rough cast glass under cills with thermalite block backing wall. Gable walls are 15½ in. cavity brick. The panel over windows to the stage is of slates on framing. Fascias are painted timber.

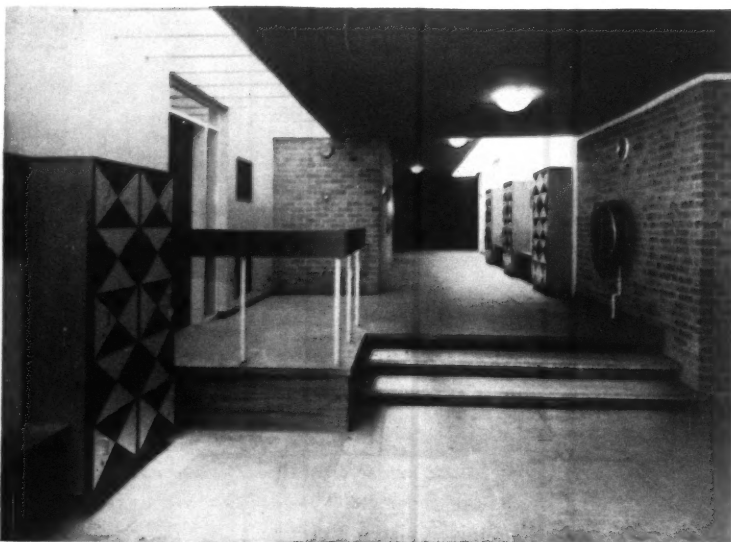


2, the main entrance, and dining area windows, with the
kitchens and music room on the right.
3, the covered way leading to the practical block.

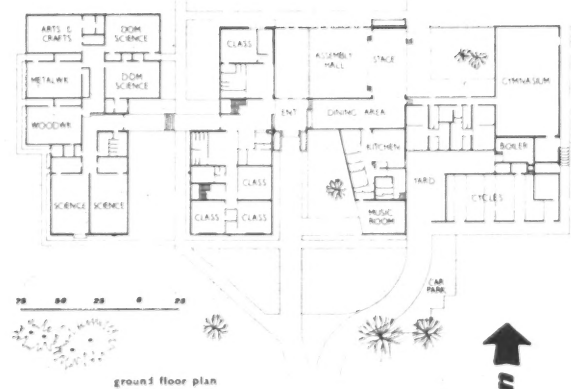
School at Swaythling



3



4, corridor in the practical block.

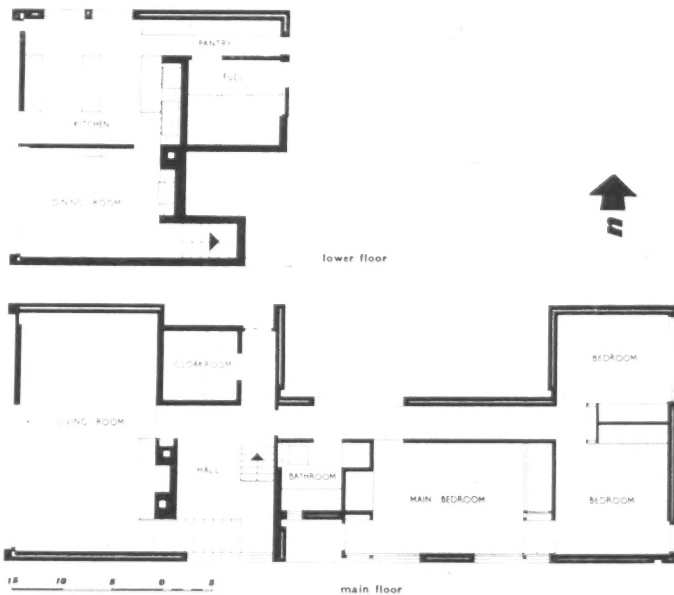


5, the windows of the living room, above, and dining room, below, showing the deeply projecting eaves.

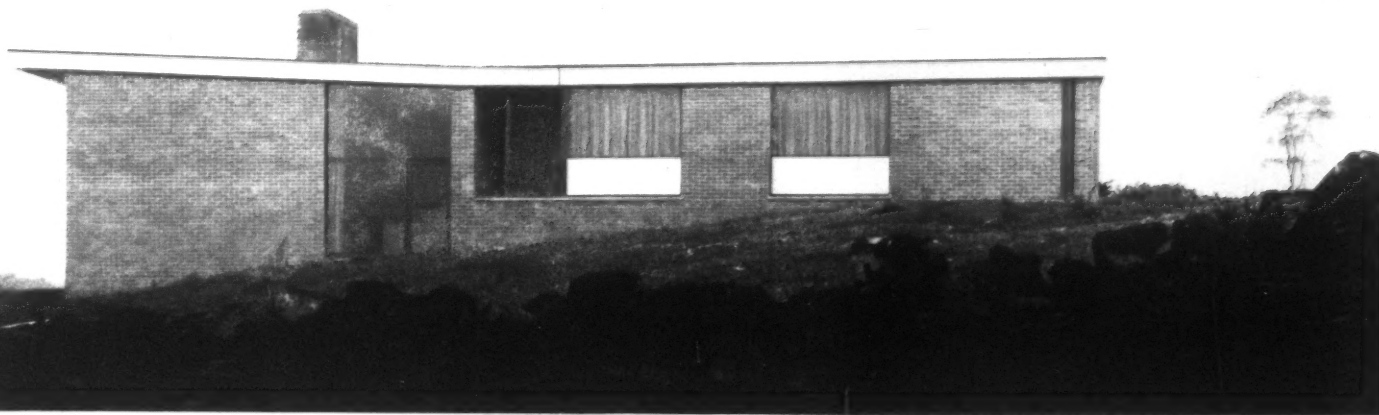
HOUSE AT HIGH HOYLAND, YORKSHIRE

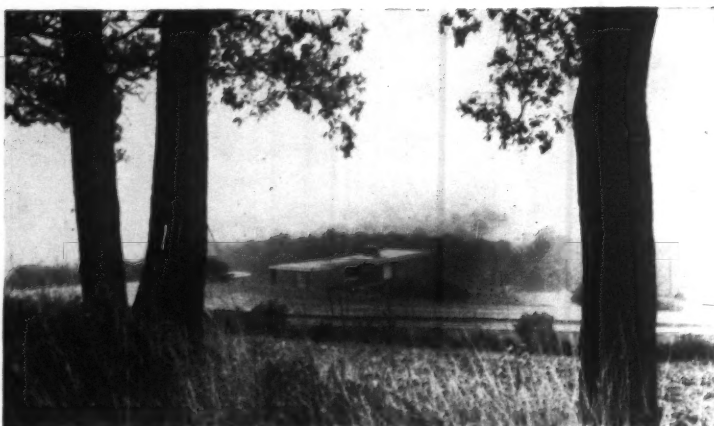
ARCHITECT: MICHAEL BURTON

The house is set on the edge of an old Saxon estate adjoining the Yorkshire moors and the Industrial West Riding. It looks out on the undeveloped valley of Cawthorne and Gunthwaite and was designed to make most use of the sweeping views to the east and south and the shorter but equally picturesque land to the west. The 15 foot long window in the drawing room faces south to frame Hartcliffe Towers and Midhope Moor some 10 to 15 miles away.



6, the house from the south; the deep window lights the hall and staircase and the main bedroom has its own recessed balcony.





7, looking down on the house from Greenland Hill with Caxthorne Park in the distance.

House at High Hoyland

The large windows are disposed about the house to make the most of the sun's heat and the extended roof over the south window protects it from the high summer sun but allows it to catch the lower winter orbit.

The house is built of light grey brick with a white painted eaves fascia. The eills are black quarry tiles, the frames are painted black with white opening lights.



8, the interior of the showroom, showing the roof construction.

MOTOR SHOWROOMS AT STAINES

ARCHITECTS: WESTWOOD SONS AND PARTNERS

Consisting basically of a curved roof and 80 ft. long window, this showroom is designed to give a clear view of the cars to passing motorists. The roof is covered with aluminium sheeting and is carried on tubular steel trusses bedded in blocks of concrete at the rear. Internally the roof is sprayed with asbestos, which gives good acoustic conditions and allows for movement in the structure. The windows are vertical, but reflections are cut down by the numerous roof lights of acrylic sheet. The external canopy acts as a wind brace and also helps to reduce reflection.



9, the showrooms from the road.

WORLD

a monthly review of outstanding buildings abroad, and
new developments in world architecture.

First Modern Office Block in Athens

Doxiadis Associates, consulting engineers and architects, constitute a probably unique phenomenon—a design office of international size, scope and reputation, based on the eastern Mediterranean, and their new headquarters building, 2, in Athens, is also unique in being the first modern office-block of consequence in that city. The Doxiadis organization is large, with nearly half its personnel (who total 400) established in Athens, the rest scattered over the Middle East and East Africa. Its head, Constantinos A. Doxiadis, is a man of ideas and philosophy, who was overall coordinator of the Greek Economic Recovery Programme after the late War, has been adviser on housing problems to such bodies as the Ford



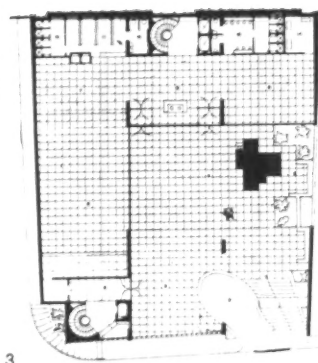
Foundation and the International Bank, and has recently evolved a theory of *Ekistics*, the combination of engineering, architecture and economics in the service of Man in a Machine Age, which was set out extensively in *Architectoniki* No. 23, 1959.

The new office block, sited at the foot of Mount Lycabettus in an area that is relatively quiet but handy for the city centre, consists of three main blocks surrounding a small court, 1, though—as the plan, 3, shows—almost the whole of the ground floor, including that of the three blocks themselves, is public or circulation space, with car parking underneath. The Doxiadis offices, properly speaking, are in the high block at the back, the lower, front block being occupied by the Athens Technological Institute, while the yet lower connecting



block between the two contains an assembly hall, medical rooms and other facilities common to both organizations. The structure consists essentially of floors spanning between the structural end-walls and the double row of columns down the middle of the site, seen in 3 on plan and in 2 as they appear in fact. Planning throughout is on a 75 cm. module and its multiples, the characteristic bay-width of the windows being four such modules. Because of the excellent site, these windows command remarkable views of Lycabettus in one direction, and over the city to the Acropolis, 4, in the other.

3, plan of ground floor of Loxidis office block;
4, interior of one of the drawing offices.



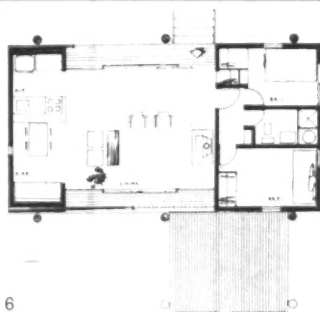
3



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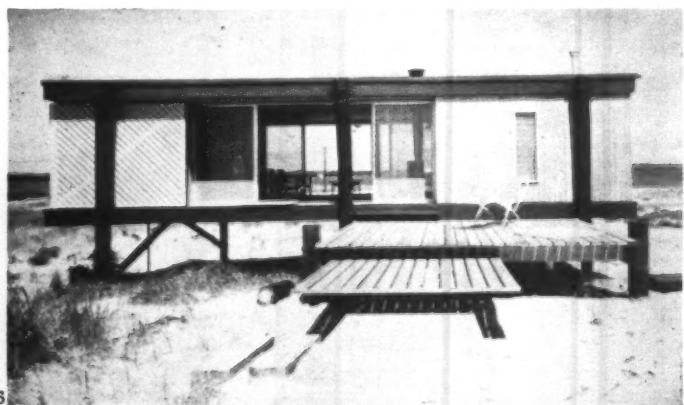
Post-Anchored Beach House

A building designed to take advantage of summer breezes may have to take severe punishment when that breeze whips up into a winter gale. A recent holiday house by Peter Blake and Julian Neski on the eastern coast of the US takes full advantage of summer breezes by having more than half of each side composed of roll-away windows, as the plan shows, 6. To protect both glass and house against winter gales two straight-forward functional-traditional expedients have been adopted. Firstly, there are rolling wooden shutters, two to a side, to keep the wind off the windows, seen in 5. But this view also shows the expedient employed to protect the house as a whole—the creosoted telephone poles driven deep into the sand to provide an unshakably secure anchorage for the whole structure. Both the shutters and the pole-piles have a seaside, pier-and-warehouse look about them,



6

but one wonders, looking at the wavy form of the central pole, like the untrimmed tree-trunk that so often flanks the side of a *tokonoma*, and reading it with the external shutters, whether the seemingly inescapable spirit of Japan has not been at work here again.

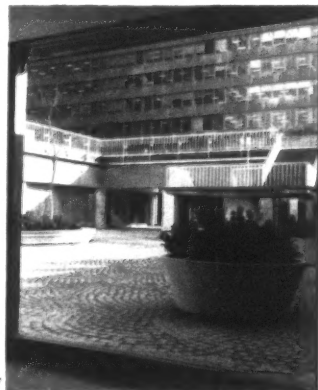


5

Arts and Architecture

Englishry in Philadelphia

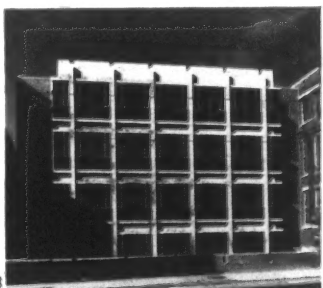
Out of the increasingly exotic US architectural scene, for which the common Anglo-Saxon tongue seems an increasingly inadequate instrument of description, there occasionally emerge works that strike a sympathetic chord in English architectural circles, either by reason of their appearance or the conditions surrounding their creation. Two such designs have lately emerged from Philadelphia. One is the new sunken garden for the Penn Center, by Vincent Kling, 7; its function is peculiarly Downtown American to provide a light-and-air well for a five-block underground shopping centre, but its treatment, both overall, as a pedestrian concourse, and in detail,



7

with Festival flower-tubs, patterned floorscape, and fly-away staircases, must seem strangely home-like to those who have assisted in the creation of a new English tradition, from the South Bank to Coventry and Harlow town centres.

The other is familiar by virtue of the surroundings into which it has had to be fitted. The building to the right of the Moore School of Electrical Engineering, 8, in the University of Pennsylvania, could be London University at its dullest and most pseudo-Georgian. The way in which the new



8

block's uncompromising façade mates up to the surrounding work by symmetrical blank-faced brick wings is a masterly example of doing a difficult job easily, and is—no doubt—one of the features of the design that earned its architects, Geddes, Brecher and Cunningham, a place in the exhibition of Younger Architects' work at the Architectural League of New York. Also selected for the same show was another work of Kling's; the Bachelor Officer Quarters at Philadelphia Naval Base.

Rising Towers of England

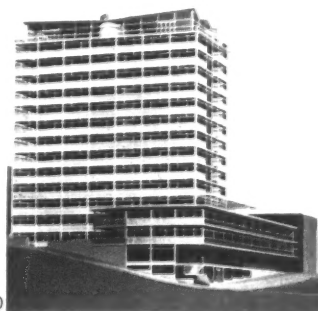
The crop of new office buildings completed or on the stocks grows

heavier—in more than once sense of the word—every day, and now begins to spread significantly beyond the confines of central London and the West End. At Neasden, in the north-western suburbs of London, the Radiation Company are proposing a new headquarters building to the designs of E. Dennis Pugh—the photomontage of the model on the actual site shows, 9, that the 12-storey



9

tower will be a dramatic break with the company's earlier buildings there. Farther afield, in Bristol, the *Clifton Heights* block, designed for a difficult sloping site, 10, by Raymond Moxley, is to be a mixed development with flats in the tower block, and a penthouse restaurant on top. Both flats and restaurant should command



10

some impressive views over one of the most dramatic townscapes in England.

Within the heartlands of English commerce, the junction of Ludgate Hill and the Old Bailey is to be the site of Hilgate House, 11, architect Theo H. Birks. Although the scheme does not make any very imaginative approach to the development possibilities of such a site, it is practical (internal parking for 120 cars), promises to present a lively spectacle to the pedestrian (three pubs, three parades of shops, unlike so many 'dead' ground floors) and breaks with the bad old Banker's Georgian traditions embalmed at the top of the hill around St. Paul's. Farther west, and now nearing completion, is State House, High Holborn, of which a



11

WORLD

model is seen in 12. Designed by Trehearne and Norman, Preston and Partners, it continues that office's tradition (albeit too often a frustrated tradition) of patronage of contemporary art, which here takes the form of a large work by Barbara Hepworth, entitled *Meridian*. The final plaster stage of this work is seen



12

in 13, and, when cast and installed, it will be the second Hepworth in such a building—the other is at Mullard House in Torrington Place. Both these works, it will be noted, are on the outer fringes of the Univer-

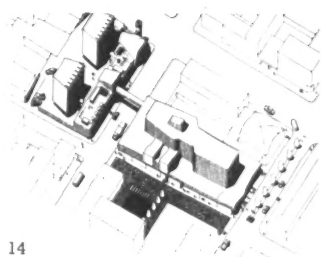


13

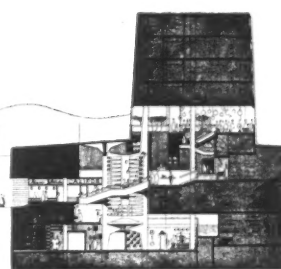
sity area of London—dare one suggest that there is some connection between this fact and Miss Hepworth's standing as one of the most 'intellectual' of British sculptors, especially since State House overlooks the editorial offices of the *New Statesman*.

Arctic Shopping Centre

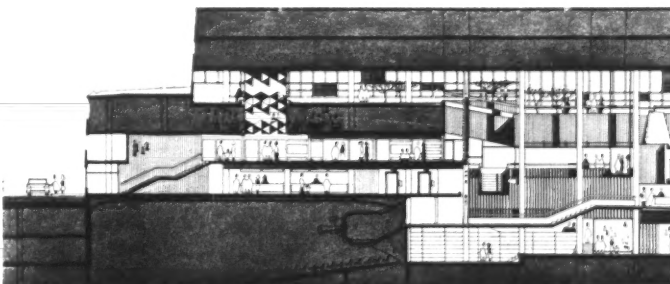
In the present state of architectural thought and communications, concepts acquire plastic form even before their functional justifications have been thought through. A shopping-centre has become, willy-nilly, an isolated piazza with a ring of car-parks round it, and it is almost impossible to make either architects or laymen conceive of it in any other terms. Hence the salutary effect of Ralph Erskine's all-enclosed shopping centre for Lulea in the arctic north of Sweden. Photography has not yet done justice to this remarkable design, except to confirm the promise of the drawings reproduced here. The bulk form of the scheme is a low rectangular block, 14, capped by an irregularly-shaped hotel which is as yet to be built, and joined by an enclosed pedestrian bridge to residential blocks currently being designed by Bertil Mattsson and Jan Thurfjell. Inside the block, the public circulation



14



17

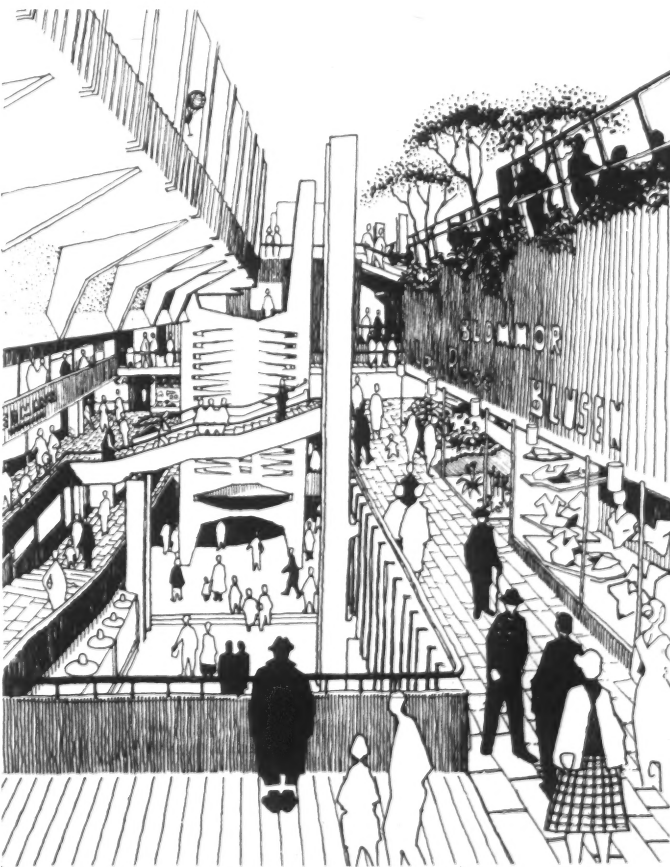


15

area, shown unshaded in 15 and 17, serves a similar function to an English shopping-arcade, but is much more complex in its spatial organization, twisting and convoluting four floors up and two down from street level, around a sequence of vertical sight-wells, such as 16. Although the need for shelter from arctic climatic conditions was an obvious prime determinant in this design, the relevance of this concept to the problems of other climates when multi-level circulation comes in (as it seems its must) is too obvious to be ignored.

Brutalismo & Warehouse Aesthetics

Close students of recent English architectural polemics will know that before the New Brutalism received the name that made the Smithsons world-famous, it was called, with greater descriptive force 'The warehouse aesthetic.' In so far as these two terms mean anything different, each has appeared recently in Italy. *Brutalismo* quite consciously in the *Istituto Marchiondi* in Milan, 18, by Vittoriano Vigano. The *Istituto*'s function is educational (as with the



16

Arkitetur

Smithsons' Hunstanton School) and Vigano's view of the morality of his architecture is quite as tough-minded as theirs—the school is for deranged children, replacing an old, prison-like structure by one dedicated to a more



18

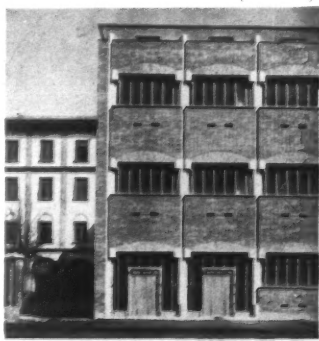
open and progressive curriculum, with the blunt seriousness of the architecture, 19, seen as part of an educational programme preparing the children for a life at once 'responsible and hard, but interwoven with strength and dignity . . . freedom and respect for oneself.'



19

The warehouse aesthetic as it appears in Casabella No. 227, is a different and less conscious matter. Giorgio Raineri, whose name has been linked with those of the Neoliberarians, has recently completed an extension to a school in Turin, 20, in which Neoliberty respect for the 'pre-existing surroundings' has united with the movement's passion for brickwork to produce a structure which seems to have little or nothing to do with the old work adjoining it (though the floorheights and bay-widths are in fact the same) but has an undeniable power and common-sense quality of its own.

The other manifestation of what might be termed a warehouse aesthetic is a scheme of some architectural and cultural importance—the rebuilding of the *Palazzata* in Messina, 21. This concerns the reconstruction of a thin line of buildings facing the waterfront, destroyed in the great earth-



20



21

21, general view of the rebuilt Palazzata, Palermo.
22, 23, landward side of the INPS offices, Palermo, by Giuseppe Samonà, and a detail of the side toward the sea.



22

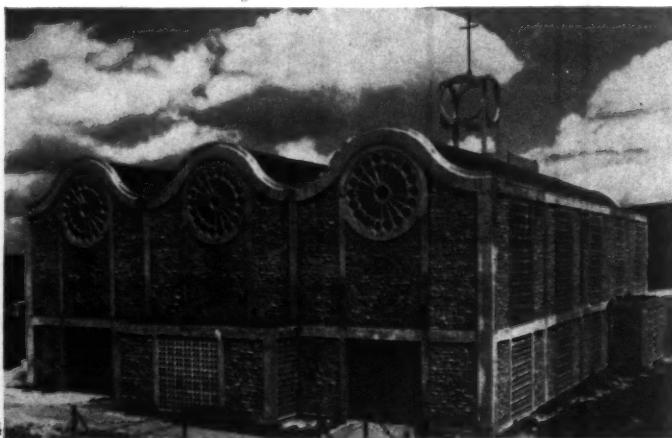


23

Rococo from Rationalism

Commentators on the oddities of European architecture have noted, before now, not only that peculiar 'Modern Rococo' style associated with the name of the Dutch architect, S. van Ravesteyn (AR, March, 1948) but also its curious affinities with the Doctrine of Auguste Perret. Ex-

perience 'on the territory' will also show the visitor to Holland that the style is not restricted to van Ravesteyn, nor to the Dutch Railways, for which he was long the architect, and a recent example of it can be seen in the new church of St. Joseph at Vaals, designed by J. A. Huysmans. 24. The immediate effect of its



24

exterior could hardly be more bizarre or unclassifiable to immediate view, but, as Bouc says (1959, No. 20), it has *een normaal betonskelet* with stone-faced infill panels, quite safely within the rationalist tradition that descends from Perret. Similarly, the interior, which looks almost like eighteenth-century *chinoiserie* at first sight, 25, has a reasonable structure, and the roof—a waved concrete shell of only 6 cm. thickness—is reported to give excellent acoustic qualities.

25



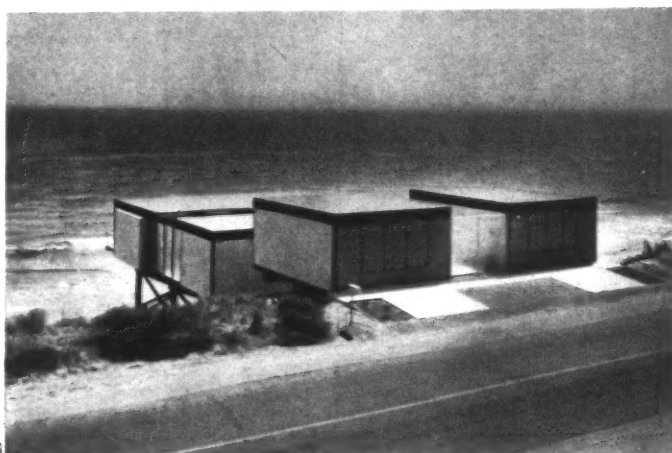
Sea-Side Symmetry

While arguments over the proper uses of formality in modern architecture proceed, modern architects continue to design formal buildings, often for what might be termed informal uses. A holiday house by the sea represents one of the more

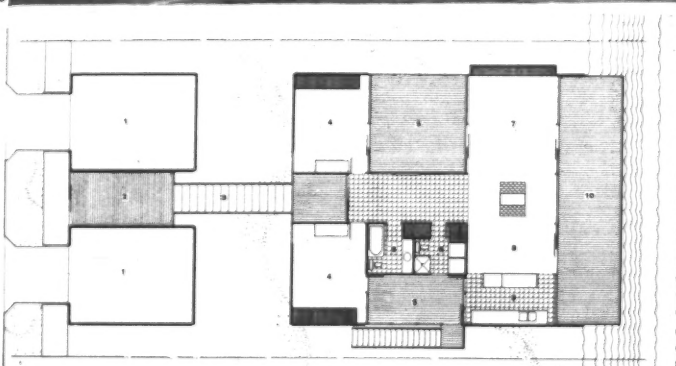


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informal kinds of building in the current repertoire, but Craig Ellwood's recent house at Malibu beach, California, 26, answers this programme with a layout that is as strikingly formal as some of the so-called Palladian houses of Johansen or Philip Johnson. The two garages face the road in strict symmetry, suggesting that the new formality may have respectable functional roots in the dream of the two-car family, and the entrance steps descend between them on the main axis of the house proper. The plan, however, shows that, within the house, the symmetry is more processional, so to speak, than functional, 27. Thus, while the axis brings the visitor between symmetrical bedrooms, and delivers him ultimately to the free-standing fireplace in the centre of the living-room, 28, the kitchen lops off



26



27

Bauen und Wohnen 209

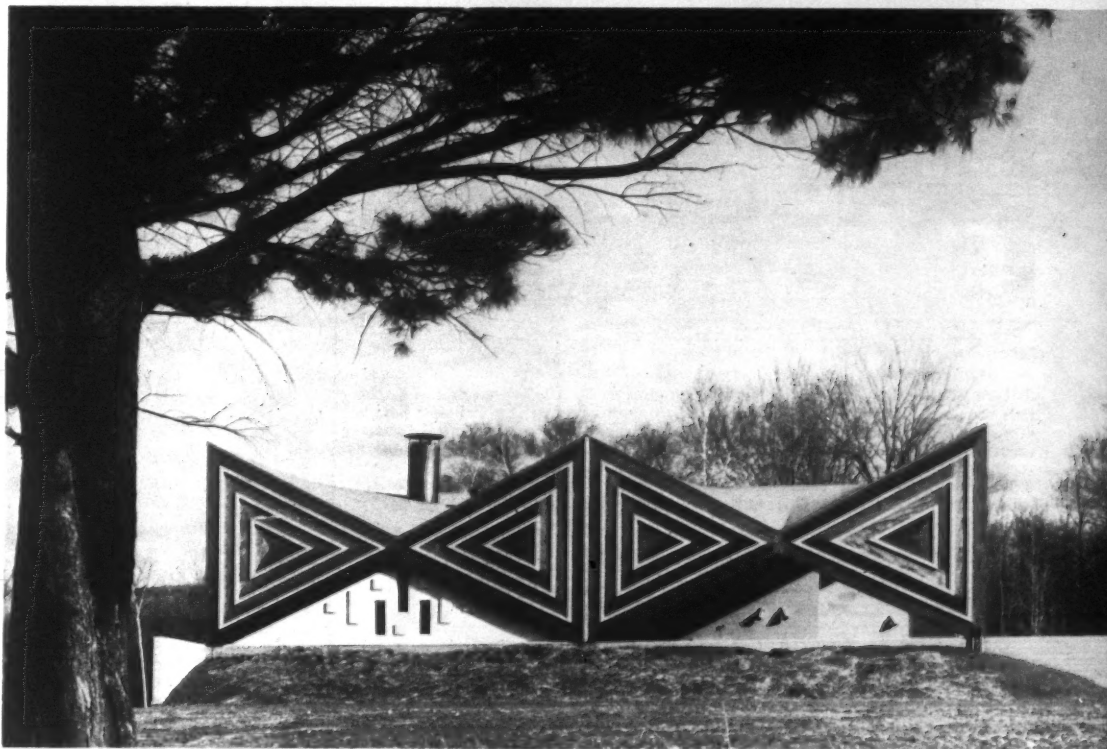
WORLD

a large piece of floor-area from one arm of the living space, and the bathrooms occupy more than half the area of one of the two 'matched' patios, making it, effectively a service court, with the special function of being a cleaning-up area (note the direct access to the shower) for persons coming up from the beach.

Quadruply Warped Parasol

Most deviations from the 'normal' square or pitched-roof profile for small houses involve irrationalities of structure, but occasionally a seeming irrationality will prove to make perfectly good, if unexpected sense. Such a house is one recently built at East Dorset, Vermont, USA, to the designs of Ashok Shavani, 31, which suggests, at first sight, one of the more formalistic followers of Wright. In fact, however, the bitter winters of Vermont (frost that reaches six feet down into the earth, violent gales, blizzards of snow) leave little room for personal fancy, and this apparently decorative gable wall is serious structure, its form arising from a double scissors-truss of light steel angles which, with a matching one on the other side of the house, carries the roof, in the form of four valleys warping out to a flat ridge-

31



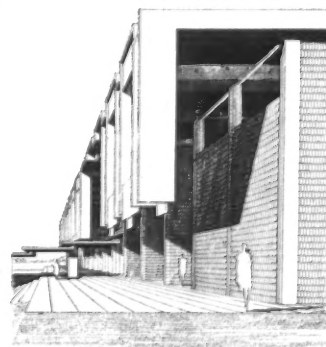
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line across the centre of the house. The roof, together with the planked in trusses and the north-eastern wall of the house, make a kind of box-lid dropped over the system of concrete-block walls that enclose and divide the space of the house—the system is bitten into, on the less weather-beaten south-west, by the car-port and entrance porch, 30, and plan 29.

As might be expected, the variations in pitch of the warping roof make for dramatic interior effects, particularly when combined with the carefully worked-out fall of shafts of sunlight, 32, from the pattern of windows on the north-east wall. However, the walls of the fireplace, which give so clear an idea of the changing slope of the ceiling, are anomalous to the rest of the design, in that most of the interior walls are taken up only seven feet, with glazing (or even nothing) above, so that the continuity of the inner space under the 'box-lid' can be more fully appreciated.

Return to Florida

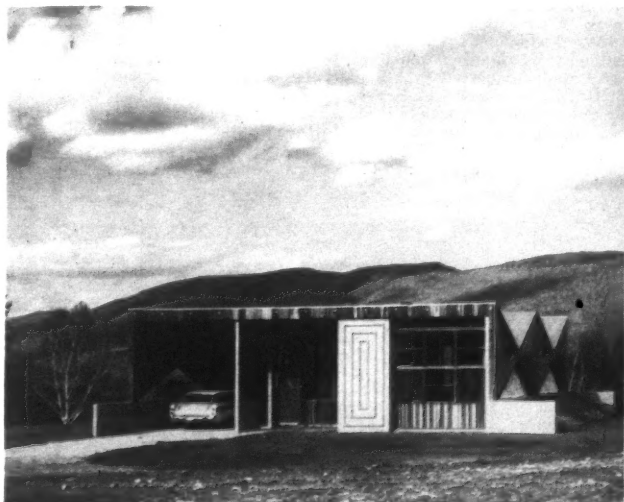
The foundations of Paul Rudolph's reputation were so firmly laid in Florida before he became a national figure and migrated to Yale, that it is of particular interest to see how he designs for Florida today, now that he is an International figure as well. His project for a new high school at Sarasota, where he still maintains an office, shows that he is still working on the idea of the suspended screen, which he first developed for Wellesley College. At Sarasota, 33, the function of the screen is to provide part of an elaborate system of sun-control, which in its turn is part of a closely worked-out approach to the 'micro-climatology' of the building. Thus, the classrooms are disposed



33

Architectural Record

on the north and south sides of the building, on either side of a central corridor, 34, which gives optimum presentation to cross-ventilating breezes in that locality, and the screens prevent direct sunlight from entering, in spite of this orientation. The second-floor corridor is suspended clear of the classroom walls, leaving a gap through which extracted air may rise from the ground floor, while indirect daylighting finds its way down to the ground floor from the monitor on the roof. A notable

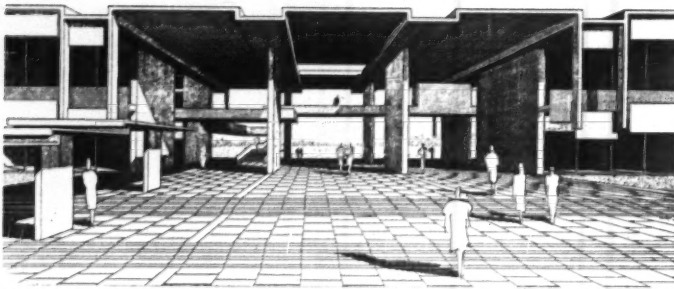


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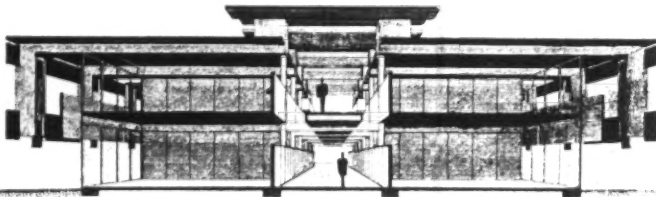
32



34

feature of the design, arising from this concern to have the micro-climate right, is the systematic creation of spaces in the structure for mechanical services, such as air-extraction plant, and these 'mechanical spaces' are expressed on the

exterior as the open ends of the troughs between the twinned beams that carry the screens, as in the classrooms on either side of the main entrance in 35—in the main entrance canopy, however, these troughs are purely structural.



35

Architectural Record

Italian Buildings out of Context

Thoughtful visitors to Como must often have been struck, as they mused on the classical and unmistakably Mediterranean geometries of Terragni's *Casa del Fascio*, with the realization that Northern, Nordic Europe starts on the hill immediately behind—indeed, *lederhosen* are in evidence as soon as one leaves the funicular at Brunate. Culturally, economically and architecturally, we hear a good deal of Italy's exotic south, much less about her equally exotic (by Italian standards) Alpine north. The Editors of *L'Architettura* (No. 44) were probably expressing something of their sense of this exoticism when they said of Eduardo Gellner's work in Cortina d'Ampezzo, 36, that 'designing for mountain areas is really a tough experience for

a modern architect... he must guard himself against the romantic suggestions of local or anonymous architecture.' To northern eyes this building for the Italian Posts and Telegraphs, of which 37 is another view and 38 a detail, suggests that Gellner, at least, has succumbed completely to these 'romantic suggestions' although the general air of bravura and sophistication are, perhaps, specifically Italian. Nevertheless, one must agree with *L'Architettura's* verdict that Gellner has shown originality in face of his problems—there can be no other public building in Europe that even faintly resembles this.

Certainly not Gio Ponti's Italian-Swedish Institute in Stockholm, 39, which though far north of Italy's borders and relatively benevolent



36

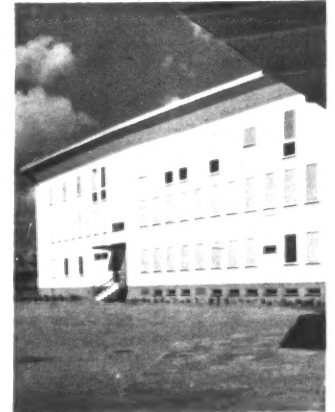


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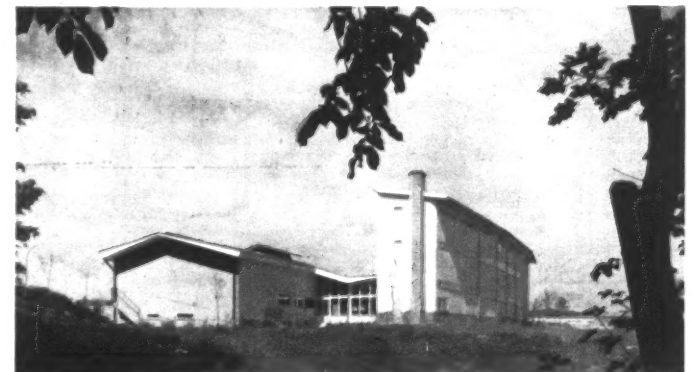
38

climate, is strikingly Latin to the eye, and calls to mind, curiously enough, some projects that Ponti made about five years ago for an atomics institute in Sao Paulo. In the small strip windows of its rear façade, and in the shuttered blankness and flatness of the main front, 40, this has very much the air of an Italian



40

building in exile. Ponti has expressed a hope (in *Domus*, 1959, No. 355) that if this building expresses something specifically Italian, it does so by means of something more profound than mere stylistic devices. Argument on this point will doubtless proceed for some time, but it must be observed that if there are recognizable stylistic devices in use here, they are specific to Ponti personally, rather than to Italian architecture in general.

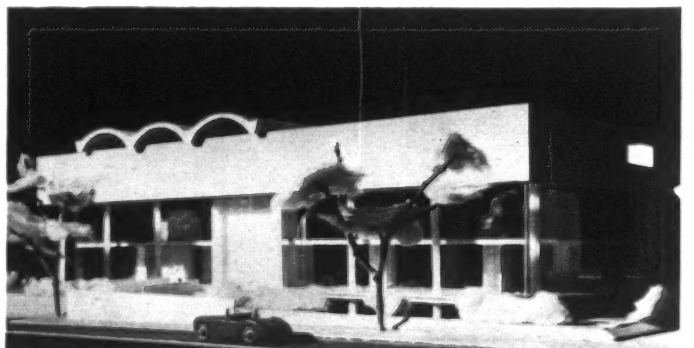


39

Classical and Flexible

The antithesis commonly made between classical design, seen as a closed aesthetic system, and modern needs for flexibility in plan, seems likely to be put to a severe test if used to evaluate the new Primrose Club, 41, in Toronto, designed by the well-known office of John B. Parkin Associates. Firm claims to both classicity, justified at least diagrammatically by the appearance of the model, and flexible adaptability to the changing needs of a club, are made in the preliminary notices that have been issued about the building,

which should be completed late in 1960. The basic device by which these supposedly conflicting aims will be achieved are, quite simply, that the regular bulk volume of the whole is not only sub-divided by movable screens, but also has space to spare for expansion within the building envelope; in other words, more of the sun-deck behind the storey-high parapet could be roofed-in and enclosed. European readers will also detect a note of resigned realism in the statement that the basement car park has room for thirty large cars (AR italics).



41

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EXHIBITIONS

PAINTINGS AND SCULPTURE

The summer exhibition of paintings by 19th and 20th-century European masters at Marlborough Fine Arts is one of the most notable and fascinating displays of stock that I have seen in a dealers' gallery since the war. It must have cost the Marlborough a great deal of money to bring these works together, for quite apart from paintings by Delacroix, Manet, Renoir, Van Gogh and Pissarro which cannot fail to interest collectors who are looking for good examples of these masters, the exhibition includes works of an even rarer quality by Cézanne, Bonnard, Matisse, Rouault, Vlaminck and Klee—works in which form and colour are infused with a marvellous poetry.

A slightly uneasy relationship between the figure and the landscape gives Cézanne's 'Le Garçon Couché, I, an unusual warmth and poignancy. The austere composed landscape, with its rigid verticals and horizontals, bestows upon a meadow with a stream something of the formality of a private park. It is a setting for a great painting of the nude, and one can sense in the pose of the figure and the position it occupies in the composition that Cézanne had a reclining Venus in mind when he was painting this peasant boy in shirt sleeves. The boy was obviously an unwilling model, and Cézanne has not tried to mitigate the stiffness and reluctance of his pose. It is a reminder of the difficulty Cézanne had in obtaining suitable models for his 'baigneuses,' and there is enough unconscious symbolism in the invasion of the stream by the reflection of the column-like tree, and in certain anachronistic



details in the treatment of the figure, to underline the fact that the boy is a substitution. Yet it is a marvellous painting, and an extraordinarily subtle instance of the use of juxtaposition and anomaly to do justice to inner experience.

There is a striking contrast between this picture and Renoir's late 'Baigneuse Couchée' which hangs on a nearby wall. One has the feeling that when Cézanne was painting 'Le Garçon Couché,' the boy was not always available as a model and that there were times when the painter was alone with the landscape. The reverse seems to have been the case with the Renoir, and it is the nude and not the landscape that is, so to speak, totally with us. The model was probably posing indoors, and Renoir has been content to sketch in the landscape setting 'out of his head.' It is a deft yet desultory sample of his famous rainbow greenery; its shimmering insubstantiality exaggerates the girl's solidity to the point of grossness, and it is Renoir's effective substitute for a pictorial convention that has fallen into disuse—the convention that had allowed Titian to wrap a caressing and revealing mist of scarf round the body of Europa.

I am still horrified by a certain kind of distortion of the human head that first appeared in Picasso's work during the last war. A fearsome example of it appears in 'Femme Assise,' painted in 1941, which is another of the Marlborough purchases. The dislocations are beyond description, and the fact that they emit a grimace which is on the verge of being a cheerful grin does nothing to reduce my feeling that a human face has been subjected to a sadistic pictorial interrogation. It is almost as if Picasso were being seduced by the dehumanizing atmosphere of treachery and violence which pervaded France during the Occupation. On the face of it, one would think that Picasso could have expressed a nobler spirit in adversity by concentrating his great gifts upon the beauty and grace of the feminine image: yet if he had given up the invention of monsters it would have seemed as if he were admitting to error, and acknowledging that the Nazis were right to label such work 'degenerate.' It was, therefore, important that he should, if anything, exaggerate the violence and vitality of his inventiveness. So I am a bit mixed-up about this 'Femme Assise,' and may one day suddenly realize that it has the same majestic arrogance as the monsters that I unreservedly admire.

I find it difficult to imagine that artists who paraphrase the human figure would really like us to assume that they do so for purely formal reasons. It is an activity which springs from unconscious needs: it stirs up the mud of associations as a matter of course, and its provocativeness is inextricably involved in its impact upon us. But if we are to believe Mr. John Berger, Henry Moore, who is one of our most powerful paraphraser of the human figure, considers most interpretations of his work to be nonsense. Yet Moore himself has not hesitated to put forward interpretations of some of his works, and his account of his own attitude to the bronze group called 'King and Queen' has had considerable influence on critical appraisal, and revealed the insensitivity of those critics who, by placing their faith in a purely formal approach, have dismissed its juxtapositions of disparate conventions as muddled and ineffective.

Critics have in general been remarkably judicious, not to say timid, in their approach to the holes, caves and hills in Moore's fine series of reclining figures. Perhaps the most notable exception is Mr. Frederick S. Wight, who discovered in the



chest cavity of the large wood carving of 1945-46 'a palpable image of some enormous slug (at once foetus, child and lover), burrowing with a teredo-like preoccupation in its inward feeding festival.' But the association of some of Moore's greatest reclining figures with landscape has become a critical cliché, and although most critics still hesitate to draw the inevitable conclusion that they are personifications of

Mother Earth, they doubtless fear that if they were to do so they would be accused of treating Moore as a re-furbisher of the stock-in-trade of the academicians.

Moore is the only sculptor represented in the Marlborough show, and the bronze cast of his working model for the Unesco carving of a reclining figure, 2, once again arouses associations with landscape, though less obviously than some others. It is nearly 8 ft. long and looks colossal under the gallery's somewhat low ceiling. It is a work whose effect upon us depends on its vitality rather than anything in the nature of harmonious formal relationships, and if we consider its departures from the physical attributes of a woman as distortions, they are as radical and brutal as those in Picasso's 'Femme Assise.' It is pierced through chest and thigh and has a huge swelling between the non-existent breasts; its belly has been cut away, and the cavity bears the marks of boring and tunnelling; the nether limbs have become nightmarishly huge. It conveys the impression that it could turn its tiny reptilian head with terrible swiftness.

It puts us back among the dinosaurs. It is a version of humanity which probably laid eggs and some of these no doubt looked enough like pebbles to escape the attentions of egg-sucking reptiles. Huge and slow-moving, it snaps its food out of the air. Lacking an armour of scales, plates or spines, its only protection from its enemies is its resemblance to the bare terrain it inhabits. I would call it a chimerical image of mankind as an extinct species. It has great poetical assurance, and I think it is difficult to call such an image arbitrary in an age which is dominated by the knowledge that mankind is no more than a temporal product of the evolutionary process.

The fact that no fewer than eleven of the exhibits in the Duncan Grant Retrospective at the Tate Gallery were already on the spot, and only had to be brought in from other rooms or up from the basement, is a fascinating and ironical reminder of the attempt of a famous literary set, plentifully supplied with art critics, to turn a moderately talented painter into an English master of the 'values' it admired in French painting. The Bloomsbury writers became a pack of intolerant culture snobs at the mere mention of the art of painting, and Grant, who was tied to them by birth and upbringing, was sensitive to the demands they made upon him without having the means to fulfil them.

Three or four years before the first world war he arrived at a suitably French-looking way of marking a flat surface, and 'The Tub,' 3, painted in 1910, is one of the most attractive demonstrations of it. But it lacks vitality and inventiveness, and



I think it can be taken as a sign that he was not on the right course, for although it shows the influence of African wood carving, the result is merely a trivial and facetious little stand-in for the human figure.

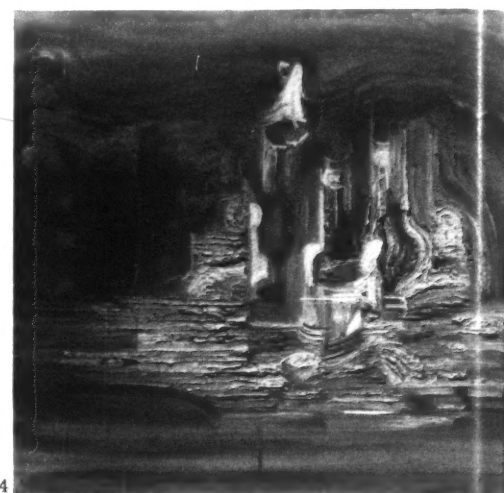
At the age of thirty-one, Jack Smith has been given a Retrospective at Whitechapel Art Gallery. It is a new kind of Retrospective, mainly devoted to paintings produced during the last eighteen months. Some of the Retrospectives of the old-fashioned kind that have been held at Whitechapel—those, for instance, of Mondrian and de Staël—looked very untidy by comparison. They covered the developments of an entire working life and didn't produce the nice all-over effect of single-mindedness which gave Jack Smith's show its air of authority. In fact, the only Whitechapel Retrospectives that have conveyed anything like the same effect of steadfast artistic purpose were those of second-rate painters who have stuck grimly to a single formula over a long period of years.

In Smith's show, a few earlier works are used very effectively as launching sites for the main display of closely related variations on two themes: light clinging to objects, 4, and the rise and fall of the sea, 5.

The earlier works include the impressive Creation and Crucifixion previously shown at the Beaux Arts Gallery. Creation is symbolized by a creeping forth of cutlery and glasses from under a napkin, and Golgotha is represented by three shirts on a line. It is a notable demonstration of the Pathetic Fallacy, but is used in the exhibition as the terminal point of the first phase of a spiritual journey, and intended as a dramatic contrast to the very peculiar 'world of light' conjured up in the work that follows.

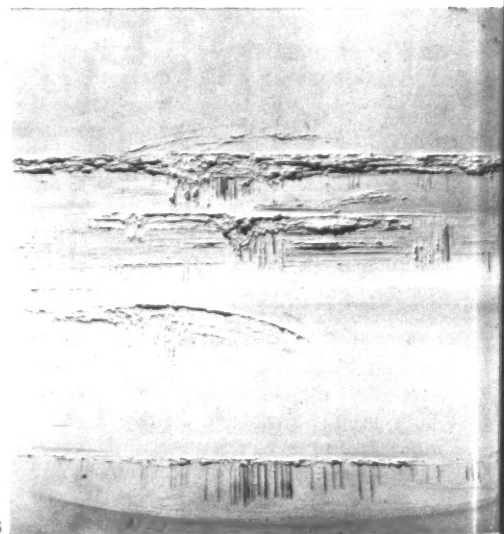
The paintings in which light is a nasty

smear on objects are more interesting though far less pleasant than the abstracts of the sea. Some of the latter are smooth sheets of white paint broken only by narrow ridges of the same substance. They



have negative good taste and would make attractively chic decorations in rooms with white walls.

Many of the paintings of light clinging to bottles are like scabby and rotting versions of 'Purist' still lifes, with light conceived as a creeping grey lava or a smear of khaki-coloured excrement or a horrible wrapping of soiled and groovy



ectoplasm. They often make double images: landscapes for the most part, or dream towns in the sky; but one called 'Bottle, Vase, Light and Shadow' suggests nothing so much as a headless, semi-draped woman, with the flesh and the clothing mingling in slow corruption. The second phase of Smith's spiritual journey seems to have landed him close to the spot where Dali's experimental paranoia took an 'undulant-convulsive' turn.

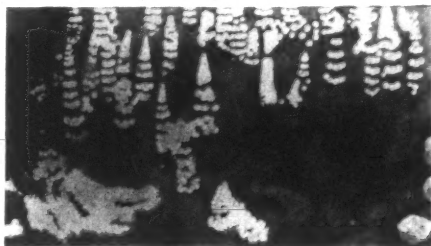
The Arcade Gallery now has sculpture



6

from many countries and periods permanently on view. The last time I called there I was particularly impressed by one of those Baga masks whose large, deeply-curved noses so enthusiastically embody the principle of increase, and by a pre-Columbian carving of a lizard, 6, which is less inventive but is superbly appreciative of its beady-eyed, knobby little model.

Edward Burra has been holding another



7

show of his large, macabre watercolours of flowers and vegetables at the Lefevre Gallery. They present a sustained vision of the unholiness of living substance, and the gourds, beans and cabbages look more naked than snakes and more shameless than monkeys. The picture of lupins, 7, is a glimpse of the underworld of faery. The lupins have ceased to be flowers and are no longer on their stems. They have changed into a glutinous substance, and now appear to be half-finished gnomes, starting out on some task of interference in the midst of their own metamorphosis.



8

'The Developing Process in Art Teaching' at the ICA made a very pretty exhibition. The sheets of blobs and squares, and spirals and arrows and maze-like lines gave one the impression that some paintings and drawings by Klee had been taken

apart and that the various elements had been distributed to deserving students intent on such tasks as proportional partitioning, space development, and irrational space-making by means of point or line development. A charming additive arrangement of arrows, 8, came under the heading of 'Form Field: Sign.'

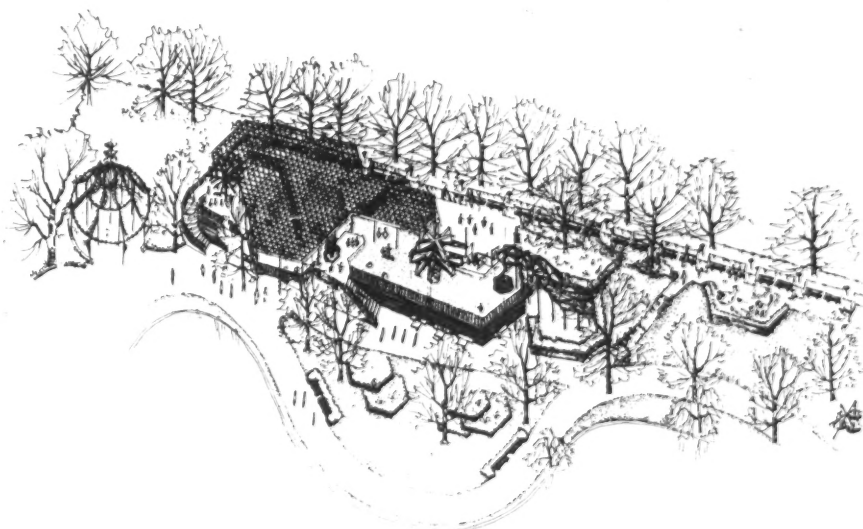
Robert Melville

POPULAR ART

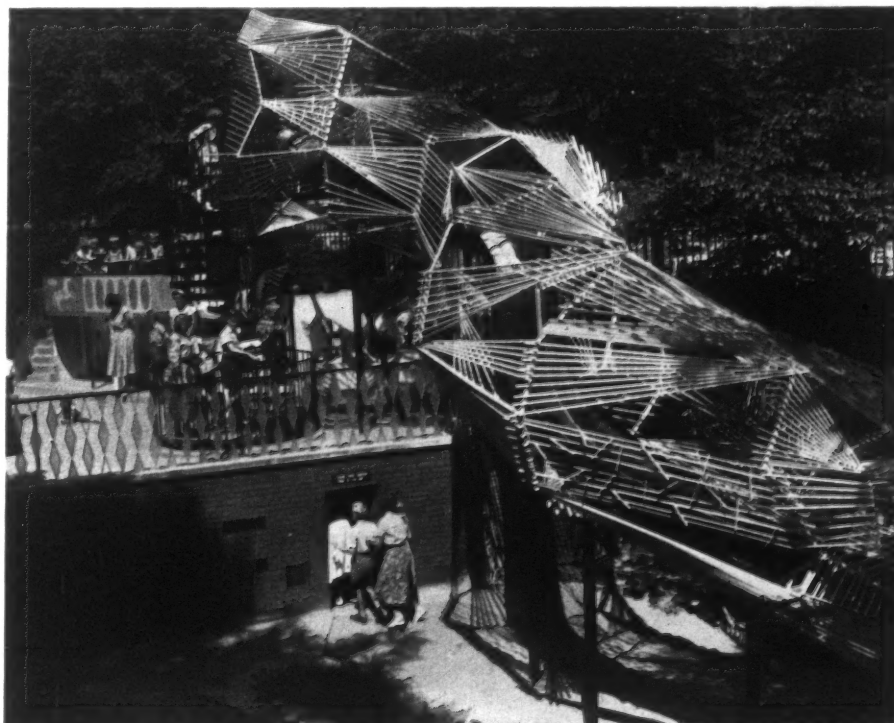
A NEW CHILDREN'S PLAYGROUND IN COPENHAGEN

Copenhagen is already well known for the originality of its children's

playgrounds, but the new playground opened last year in the Tivoli Gardens must be one of the most enchanting and imaginative creations of its kind to be found anywhere. It occupies a commanding position overlooking Tivoli's serpentine lake, and, although in no way isolated from the rest of the gardens, it is sufficiently detached to form a little world of its own where the children can enjoy themselves away from the grown-ups. Like everything else in Tivoli, the playground is laid out in a completely informal manner, with that happy blend of



1, the architect's perspective of the whole playground.



2, the entrance to the giant switchback.



3, at night the floodlit switchback becomes a piece of abstract sculpture.

nature and artifice, bright colours and sparkling lights, so characteristic of the gardens—and again like everything else in Tivoli, it is immensely successful and popular.

The playground is a work of collaboration between Simon Henningsen, Tivoli's architect, Eywin Langkilde, landscape architect, who have been responsible for the general layout, 1, the art critic Pierre Lübecker, and six artists chosen to design the different attractions: Erik Christensen, William Fridericia, Henry Heerup, Torsten Johansson, Henrik Starcke and Gunnar Westman. About half the area of the playground is covered with a wooden pergola, which is partly roofed with glass and equipped with lamps designed to afford both light and heat, so that full protection against rain and cold is provided for the children. Underneath the pergola are scattered objects to clamber on, such as an enormous prickly porcupine made of wood, as well as a rope to climb

up which is suspended from a large bird, a red rocking fish, a merry-go-round, and a see-saw on which the seats are birds that move as the see-saw goes up and down. Even the waste-paper bins round the playground are not just bins, but hippopotami whose jaws are receptacles for the rubbish! All these shapes are boldly carved and gaily coloured, thus enhancing greatly the impression of liveliness and movement already created by the very introduction of the oversize birds, fishes and animals. In total contrast to these friendly playthings is a piece of abstract constructivist sculpture, a composition of sheet-iron panels of different sizes painted alternately black and white: panels that turn out to be blackboards to scribble on. Outside the pergola and standing at one corner of the playground is a 'fireworks tree,' a tall iron construction with long gaunt arms projecting at all angles from which, at the insertion of a coin, hundreds of electric lamps flash on and off.

The other large objects are also outside the pergola but grouped at the opposite end of the playground to the 'fireworks tree.' Of these the most amusing by far is the 'House of Forbidden Games,' partly



4, climbing frame of blue and grey reinforced concrete.

visible on the left of 4. This is a building of distinctly open planning, decorated on the outside with patterns composed partly of mosaic and partly of waste porcelain electrical fittings from the Tivoli workshops which stand out in high relief. Amongst the attractions offered by the house definitely not permitted at home are a large-size keyhole to peep through and some well polished balusters to slide down. Above these features is a balcony with a balus-



5, inside the switchback.

trade to lean over and a telescope to look through: from this vantage point, suggestive of the bridge of a ship, the children can imagine themselves in command of the whole playground. Close to the 'House of Forbidden Games' is another piece of abstract sculpture, this time in reinforced concrete, a massive and severe-looking structure in sombre greys and blues which provides an excellent substitute for the joys of rock climbing, 4. And beyond this is the giant iron switchback, 2, 3 and 5, artistically the most exciting creation of all. Shaped like some fantastic serpent, with its ribs painted in bright whites and yellows, it dominates the whole playground. At night, under floodlighting, the effect is magical. Then, when all the children are tucked up in bed, the playground ceases to be just a playground, and becomes a work of art—which is the intention of the designers. Concealed lights illuminate cocks perched on the pergola, owls in the trees, and butterflies hovering over the grass and the lake.

Tivoli's new playground is a characteristically Danish creation. For it is at once practical, colourful, witty and intensely human. It is what one expects from a city where the tastes of the individual human being still count for so much, and where one of the most delightful of its many promenades and gardens has been laid out in the most unpromising of places, amongst and over harbour installations, and ends on Langelinie, where the little Mermaid is and also one of Copenhagen's smartest restaurants.

John Hayes

COUNTER-ATTACK

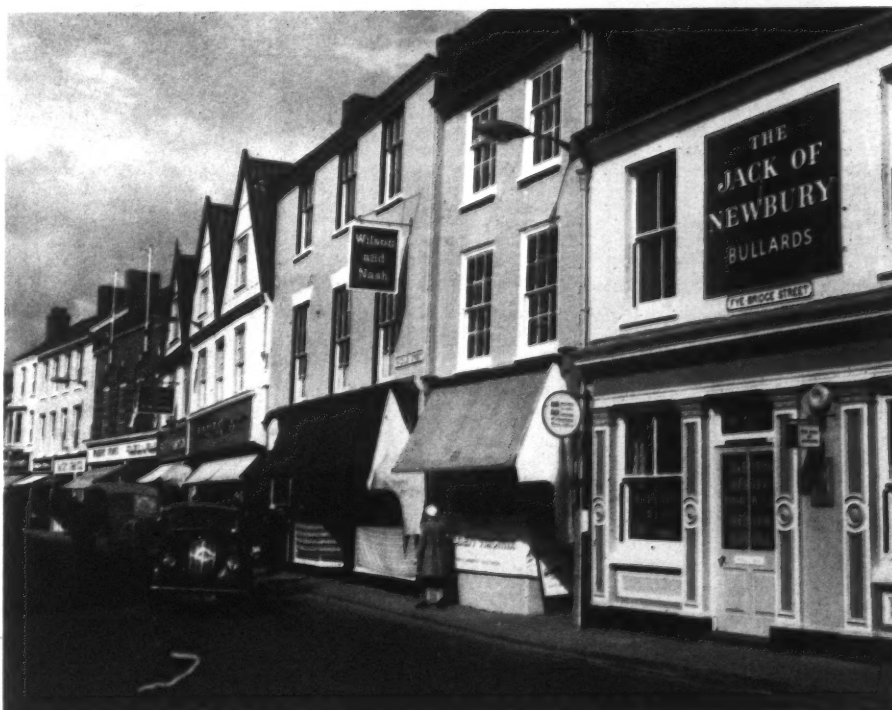
IMPROVEMENT AT BURSLEM

Full marks must go to the Civic Trust for its decision to attack the public's apathetic attitude to civic decay, not only with words but head-on in a series of 'live' experiments. It is one thing to give general advice in the abstract and quite another to stick your neck out and try to show on the ground what should be done.

The first experiment, at Norwich (Magdalen St.—AR May 1959, page 357), an essay in face-lifting a down-at-heel shopping-street, 1, 2, was outstandingly successful. The Civic Trust, its designers, the shopkeepers and the local authority all worked amicably together and produced a good result—and on time. This experiment, completed in May, caught the public interest and the results led sightseeing councillors from other towns to ask the Civic Trust for the same treatment for themselves. Their enthusiasm was a good

Arrangements have been made for the Civic Trust to handle in future the requests for advice, information and assistance about townscape, outrage and similar questions which have hitherto been dealt with by the Counter-Attack bureau, which was set up by the REVIEW after publication of its 'Outrage' and 'Counter-Attack' issues. Such requests should therefore be addressed henceforward to the Civic Trust at 79, Buckingham Palace Road.

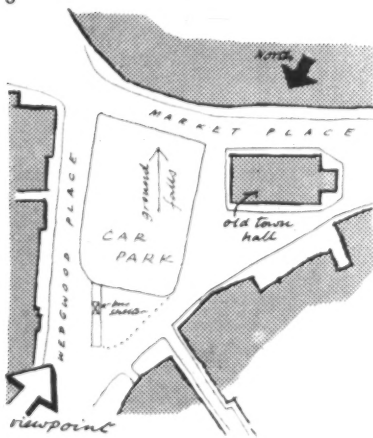
The REVIEW will, of course, continue to pay attention to all such problems in its pages. In addition to special features, a regular column, edited by Ian Nairn, will continue to appear under the heading Counter-Attack.



1, Magdalen Street, Norwich, before treatment by the Civic Trust, and 2, after the scheme had been completed.



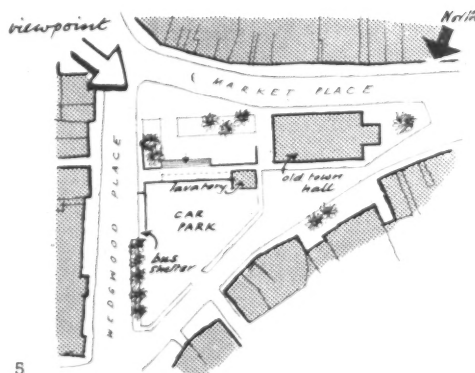
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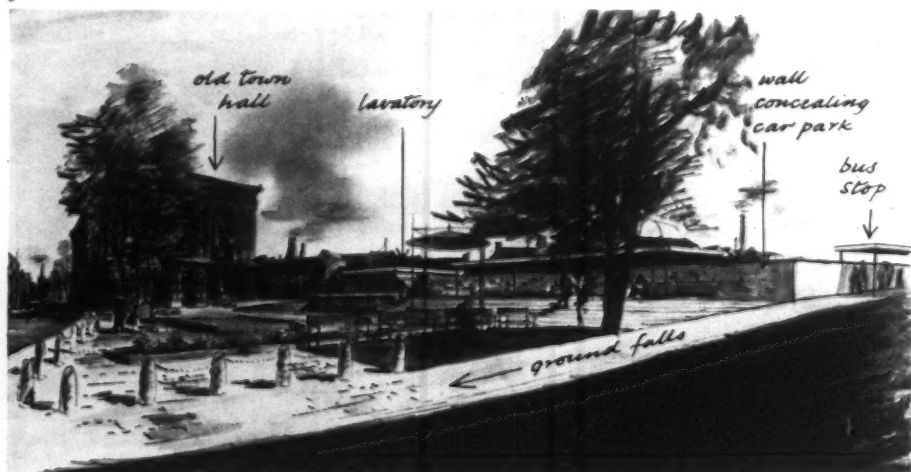
3, 4, the centre of Burslem as it is now, a disintegrated scene with the old town hall isolated on an island and the space between it and Wedgwood Place usurped by a very scruffy car park.

5, 6, the centre as it will be, with the town hall tied in to an organized layout in which the car park is masked by a screen wall which at the same time unifies the various elements.



5

6



thing but it does contain a hidden danger, for what is right in one place is not necessarily right in another: each case *must* be judged on its merits. There must be a controlling hand and, more important, a controlling EYE, sympathetic to the character of the place concerned. What's right for Norwich would be wrong for North Berwick, or for that matter for grimy Burslem in the Staffordshire Potteries, the centre of which, by local request, is the scene of the second 'live' experiment now in its early stages.

This Burslem exercise presents a trickier problem than Norwich, for besides the face-lifting of shops it involves the treatment of space—derelict space behind the old town hall and once the site of the butchers' market. As it stands this is a pretty squalid area, 3, 4. It has deteriorated into a formless junction of streets, a turning area for buses and an uncommonly scruffy car park, and is quite unworthy of the very centre of a town. The cinder-surfaced car park, bounded by tatty split wood fencing, is the repository of an ill-assorted collection of signs, bins, guard rails and a hideous concrete bus shelter. Up to three years ago there was a covered market here (demolished because of the heavy cost of repairing the roof). Maybe it would have been better to rebuild it, but this is beside the point because the council had decided its requirements before the Trust was called in. They wanted a focal point for the town and somewhere pleasant for people to sit—also a car park, lavatory, bus shelter and bandstand.

The problem confronting the architects* is how to weld these together and avoid the fragmentation or pomposity which usually results in such a case. It was not possible to dispense with any of the items, much as the designers may have wished to do so.

Now, the old town hall, a fine pitch black Victorian building, is isolated on an island of its own and the first action of the designers will be to link it in by dispensing with the slipway between it and the car park. This preview sketch, 5, 6, of their intentions shows that by terracing the north-south ground-fall they will provide a paved walking space and garden at the lower level with steps leading up to covered seats, backed by a long wall. This wall will screen the car park and will be in dark engineering brick appropriate to the place. It will link a lavatory block, the seats and a bus shelter, all of which will have similar canopies, and will unify the various objects which are usually just dumped down regardless of each other. The planting of 30 ft. plane trees will bring some much-needed foliage into the centre of the town.

The scheme is due for completion in March 1960.

* Co-ordinating architect, Misha Black; associate architect, Tony Wilkinson.

SKILL

PITCHED ROOF COVERINGS

by Peter Whiteley

5, fully supported sheet materials

The author completes his series of articles on pitched roof coverings by considering fully supported sheets. To the metals traditionally associated with this purpose he adds super-purity aluminium and the substitute for metal, nuralite. And to the familiar 'built-up' roofs he adds the new class of foil-covered felt roofs and a complete newcomer made of polyiso butylene. For the table amplifying this and the preceding article see the note on page 140.

The common characteristic of this group of materials is that they are flat and have no sectional strength. They need to be fully supported. For the forming of flat sheets of limited size into an extensive roof surface there are two technically different jointing methods: the first, applicable to metals and to 'Nuralite,' for which it is essential to allow thermal movement, is the mechanical one of laps and welts; and the second, for bituminous-based felt and plastic materials, is by using an adhesive, when the roof covering becomes virtually one continuous surface. The necessary full support is usually either screeded concrete or insulation slab, or tongued and grooved boarding, but whichever substructure is provided the surface must be clean and smooth, firm and laid to an even fall. Between the supporting substructures and the surface sheet in every case there must be an intermediate layer of felt, either Indoroux Felt No. 1 (to B.S. 747) a bitumen-impregnated flax felt (usual in the case of metals), or a bituminous felt of similar composition to the surface material. The purpose of this felt, if the substructure is concrete, is to reduce condensation; if the substructure is boarding, its effect will be to reduce the noise due to 'drumming.' It is important to use the correct felt for each particular covering material as, even in the hottest summer conditions, the surface of the felt must not become tacky and so inhibit thermal movement.

Weather Resistance

The causes of leaks in fully supported roofs may be one, or a combination of a number of the following:—

1. Water may find its way over the heads of the sheets if simply lapped. This is due to the roof having too low a pitch for the lap. However, of this group of materials only lead would be simply lapped and then only above a pitch of 12°–15°; below that pitch it would have conventional 2 in. to 2½ in. high drips.
2. In the case of bituminous-based or plastic materials there may be a failure of adhesion between lapping surfaces.
3. As with all other roof coverings (though probably less so than with unit coverings where there is a double change of material) leaks may occur where the sheet material changes its plane of direction or joins a surface of another material—verges, abutments, ridges, open valleys and roof lights are such situations.

Of these three causes only the first is in any way connected with the pitch of the roof and this will not occur if the roof is laid according to good practice; i.e. ensuring that the

lap is the correct one for the pitch, which would be 11½ in. for a 15° pitch, 9 in. for one of 20°, and 6 in. for 30° and above. Avoiding trouble from the second cause is almost entirely a matter of choosing a reputable firm who can be relied on to lay the material correctly (the manufacturers with the best reputation in this field usually insist on laying their own materials). There is nothing inherently wrong with the principle of adhesion for roof waterproofing, but it depends very much on good practice and workmanship for its effectiveness. The whole system of mechanical jointing of metal sheets by means of single or double lock cross welts, standing seams, wood filled or hollow rolls, is an extremely effective one and, if the roof is well laid, there should be no leakage troubles from this source for the whole life of the roof.

The durability of lead, copper, and super-purity aluminium is such that they are likely to last as long as most building materials with which they will be used, so the effective life of roofs of these materials is more likely to be governed by the security and durability of the fixings, rather than the durability of the material. (See *Durability* below).

Pitch

Because this group does not rely for its effectiveness on pitch, they can all be laid virtually flat (i.e. down to pitches of about 2°) though in the case of the metals as pitches below 10°–15° drips would be incorporated in the slope of the roof at appropriate centres. This freedom allows maximum flexibility.

Durability

Metals: For the metals used as fully-supported roofings, durability could be more specifically defined as resistance to deterioration by corrosive agencies; and the American Society for Testing Materials has published some interesting figures for comparative corrosion rates, in terms of depth of pitting measured by loss of weight.

These non-ferrous metals oxidize on exposure to the atmosphere comparatively quickly in the case of aluminium and its alloys and zinc (up to two years) and more slowly in the case of copper and lead, the film or patina thus formed acting as a protective coating against further oxidation. As these patinas adhere tenaciously to the surface of the metal and are insoluble in normal atmospheres, moisture oxidation virtually ceases after the patina has formed. This is not true of zinc which, in any case, has a much higher corrosion rate than the other

location	atmosphere	corrosion rates in millionths of an inch per year			
		aluminium	copper	lead	zinc
Phoenix, Ariz.	desert	0	5	9	10
State College, Pa.	rural	1	23	19	42
La Jolla, Cal.	coastal	28	52	16	68
New York, NY	industrial	31	47	17	190

(Quoted from the Symposium on Atmospheric Exposure Tests on Non-Ferrous Metals, published February 27, 1946, by ASTM.)

three metals. It follows from this that a zinc roof of maximum thickness compatible with ease of working and fixing (16 zinc gauge) will have a longer effective life than one of minimum thickness (14 zinc gauge). The life of all types of metal roof can be seriously affected by electrolytic action with other metals, or the corrosive effect of other materials which are in close, unprotected contact with them. Materials of this kind are new concrete and cement, mortar, plaster and certain woods notably oak, elm and Western Red Cedar, all of which should be suitably insulated from the metal, particularly where there is likely to be moisture present.

The finish of a metal roof will be that of the natural patina, a matt silvery grey in the case of lead, aluminium and zinc, and the characteristic viridian green of copper; these colours may be darkened or modified in other ways as a result of atmospheric impurities.

From the evidence available it seems reasonable to expect a minimum life of 100 years for a roof of the correct weight of metal (laid according to good practice)—of lead, copper and super-purity aluminium, and considerably more if the conditions are especially favourable. The ZDA estimate that for zinc, a life of approximately 40 years can be expected for a roof of No. 14 zinc gauge.

'Nuralite': This is a thermoplastic laminated asbestos fibre and bitumen substitute for roofing metals, and is laid using the same technique as for zinc, i.e. with square roll caps, in this case spaced approximately 2 ft. 9 in. apart. It has not been in use for long enough for its effective life to be known, but, because of its composition, it would probably be safe to expect a similar performance from it as from a 2-ply built-up roof of asbestos based felt. When new, 'Nuralite' has a smooth black surface, but it weathers very quickly to a matt mottled grey colour.

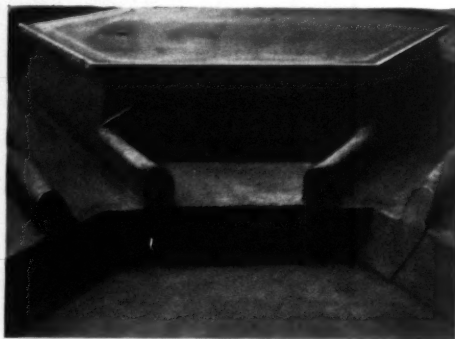
Built-up roofings: of the 'built-up' roofings based on bitumen there are

three types of material, each with slightly different properties in use, which provide a pitched roof finish of reasonably attractive appearance. These three materials are: (1) fibre felt based, (2) asbestos based, and (3) glass fibre based roofings. All are available in different thicknesses (measured in lb. wt. per roll of 24 yds. length), as an underlay and in a variety of finishes. All are laid in hot bitumen which bonds the first layer to the substructure and subsequent layers to each other. Broadly this group of materials is intended for use on roofs of 5°–30° pitch, though there are other combinations of base material and finish which will effectively waterproof roofs down to 1° pitch.

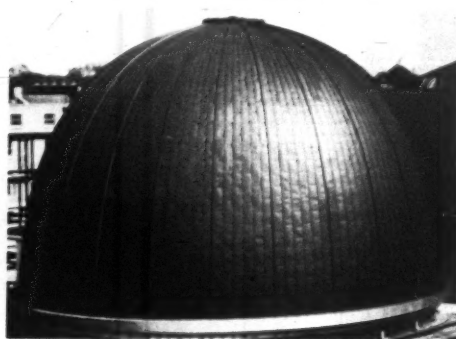
All that can be said about their durability is the observation that there are 3-ply fibre felt based roofs laid prior to 1914 which are still effectively waterproofed; and it is fairly certain that the comparatively recently introduced asbestos and glass fibre based roofings will have a longer life because of the greater durability of the base materials. Built-up roofs are available in a variety of mineral finishes, the natural stone or ceramic granules being incorporated into the surface of the sheet during manufacture; these in addition to providing an attractive finish, increase the solar reflectivity of the surface and help to protect the bitumen from ageing.

A recent development of this particular group of materials by two manufacturers is the use of a surface finish of fully soft copper foil and aluminium foil (42 s.w.g. .004 in. thick) bonded to a backing of glass fibre felt. In the manufacturing process the metal receives multiple indentations, which allow for thermal movement of the metal surface when fixed. This composite material is bonded with bitumen compound to an underlay of glass fibre based felt in the same way as other bituminous felt materials. The manufacturers say that side joints may be formed as standing seams or batten rolls if

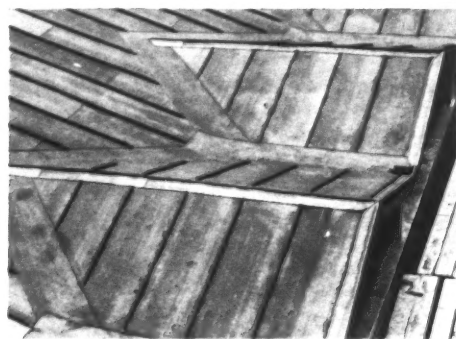
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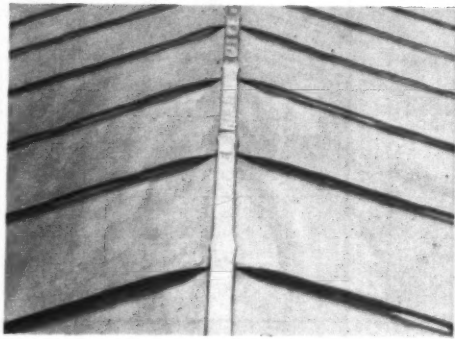
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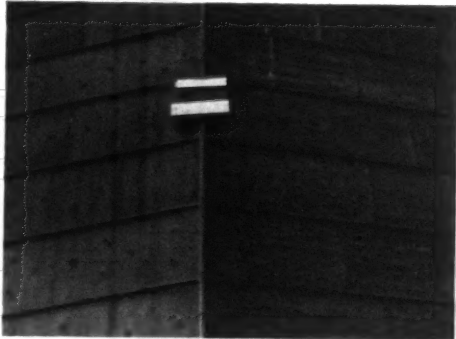
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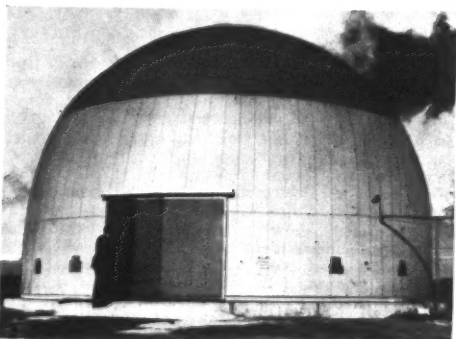
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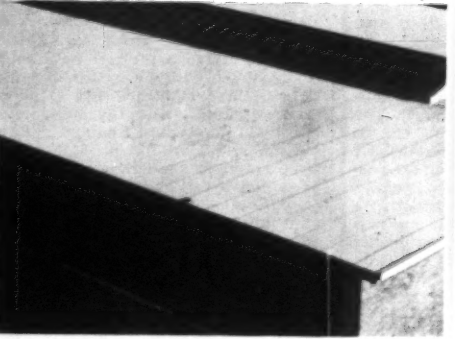
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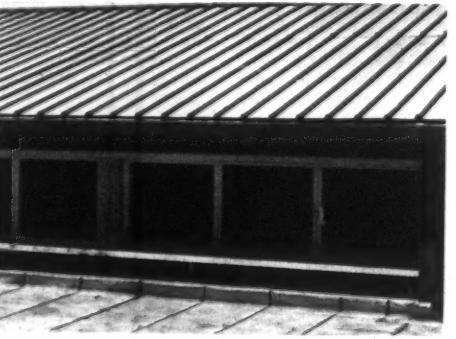
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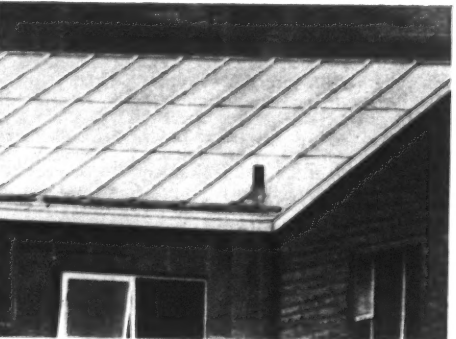
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9

Examples of the various types of roofing mentioned in this article: 1, lead; 2, copper; 3, copper; 4, super-purity aluminium; 5, asbestos and bitumen, nuralite; 6, built-up roofing, Ruberoid; 7, built-up roofing, Ruberoid; 8, aluminium, noral snaprib; 9, aluminium, British Aluminium.

desired, though this would not serve any functional purpose but would merely simulate the effect of a copper (or aluminium) roof laid by the traditional or 'Economy' methods. It will be interesting to see what durability these materials prove to have, as they combine the advantages of a metal roof appearance and, at the same time, the metal acts as a protection against ageing of the bituminous base material.

The last type of roofing in this category is represented to date by one material only—'Oppanol,' a plastic sheeting imported from West Germany. When combined with a woven glass fibre base reinforcement the same material is known as 'Roofanol.' 'Oppanol' is suitable for pitches from 1° up to about 30°; over 30° (including vertical work) 'Roofanol' is more suitable because with it there is no danger of creep or plastic flow. Both materials are laid on an underlayer of bituminous felt roofing bonded with hot bitumen; the 2 in. laps between adjoining sheets being 'swell welded' with a special solvent. 'Oppanol' (Polyiso butylene) is stable to oxygen, unaffected by exposure to light and sun, and completely impervious to water and most chemicals (including polluted atmosphere) and,

therefore (unlike all bitumen-based materials) will not age on exposure.

'Oppanol' was first developed and marketed as an impervious membrane for application in buildings below ground—tunnels, mines and similar situations—and it has not yet been extensively used as a roofing material. However, there is evidence of its extreme durability in some of the situations quoted, where it has been in use upwards of 20 years without any observable change in its appearance, mechanical properties, or effectiveness as a waterproofing membrane. The smooth top surface of the sheeting (black in colour) is normally finished with an aluminium Oppanol dressing (a paint manufactured from the same basic material). These paints will shortly be available in a limited range of colours.

Thermal Insulation

The thermal conductivity of all the roofing metals is high, especially that of aluminium and copper; however, the reflectivity of the surface of aluminium to radiant heat is also high and must be taken into account when calculating the total thermal resistance of the roof; this does not apply to lead, copper and zinc, and so their insulation value is negligible.

This same advantage of reflectivity applies to 'Roofanol' when treated with the aluminium surface coating, and to a lesser degree to those bituminous roofings which have a light-coloured mineral granule finish.

Generally, well seasoned tongued and grooved boarding is a better supporting substructure for this group of materials than concrete, because movement in the timber due to temperature changes will be slight and any additional insulation required in the total roof construction can be easily placed below the substructure. To obviate any possibility of dry rot in boarding in this situation it is advisable to ventilate the roof space.

Condensation

It is good practice to have an underlay of felt with all the metals to prevent the possibility of condensation forming on the underside of the metal, particularly where the roof structure is of concrete; but it would be even more efficacious to provide a moisture vapour barrier immediately above the ceiling finish.

In the case of these materials which are stuck to their substructure, it is essential to provide a dry structure initially, when the roof finish is

laid; and also to prevent subsequent condensation, otherwise there is a likelihood of failure of adhesion leading to blistering.

Fire hazard

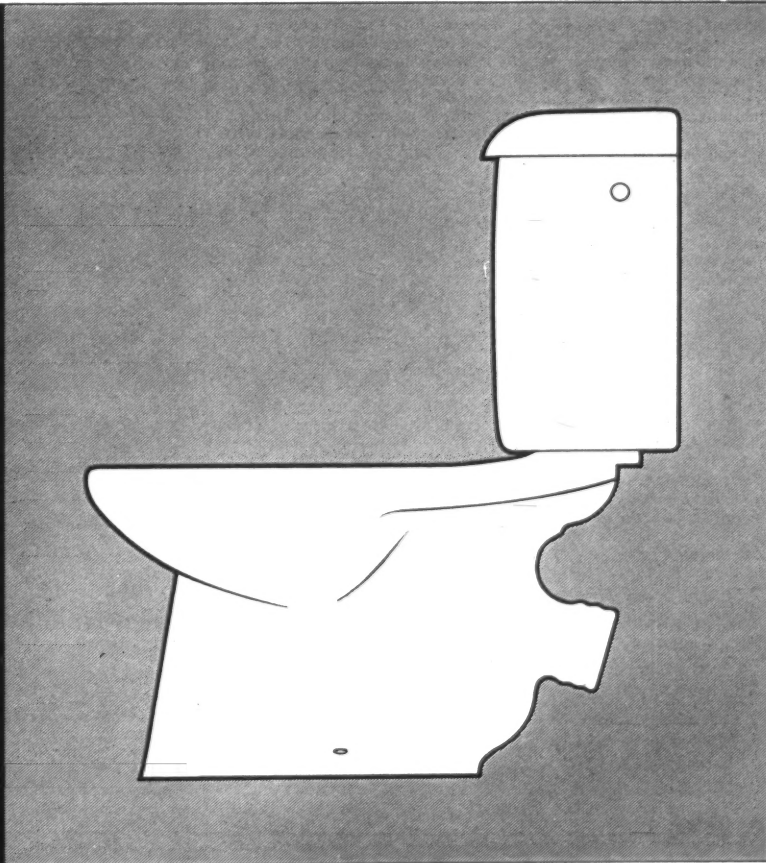
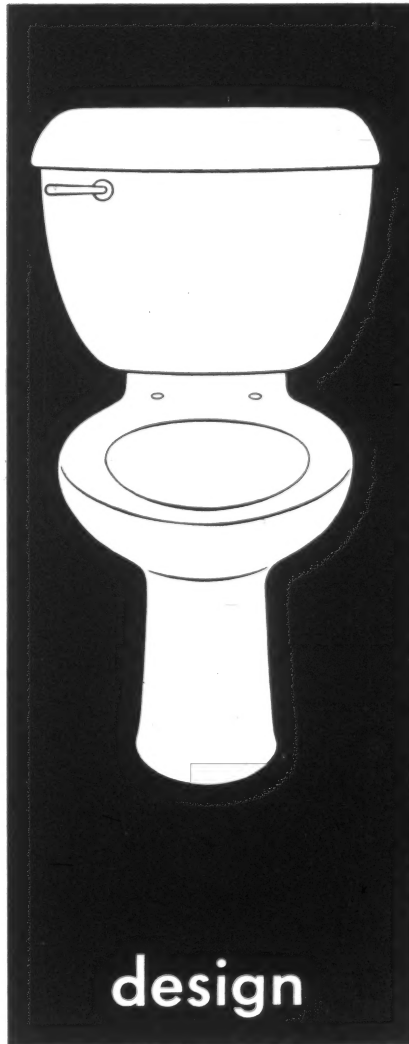
Model Byelaws Series IV (1953), Byelaw 49 (3) states: '... the roof shall be covered so as to afford adequate protection against the spread of fire into the building or to adjoining buildings.' All the roofing metals are incombustible, and although lead in particular has a comparatively low melting point it is regarded as acceptable under the above Byelaw. 'Nuralite' and two layer (minimum) asbestos base felt roofs gave approximately the same protection as 6 lb. lead sheet, when tested by the Joint Fire Research Organization.

Fibre base felt roofs on the other hand in order to conform to the Byelaw have to be laid directly on a base of non-combustible material not less than $\frac{1}{2}$ in. thick.

Conclusions

It will be seen from this and the foregoing articles that each roof covering material has its own limitations and restrictions in use, either of price, appearance, pitch or dura-

[continued on page 140]



Fine design and a double-trap siphonic action are significant features of the new Kingston closet by 'Standard'. But just as important is the material from which it (like the matching lavatory basin) is made. 'Standard' vitreous china is non-porous and hygiene does not depend solely on the glaze. This, together with its great strength, makes it the most suitable material for sanitary ware. For good design in the right material, specify 'Standard' vitreous china.

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bility. If these design limitations can be clarified before the covering is chosen, it will be much easier to see what the valid alternatives are for any particular set of roofing circumstances.

There is, of course, no easy answer to the question of price and economy. Popular opinion (and much architect opinion, too) tends to assume that there is an ascending order of price starting with the corrugated sheetings, passing through traditional slates and tiles and finishing with fully supported roofings; but a glance at the tables which have accompanied these articles* shows that this is not so. Admittedly there are two factors in the tables which tend to even out differences in the first price of the actual roof coverings. The first is the inclusion of enough insulation to give a U value of 0.2-0.18 for the roof. This accounts for an average of £11-£12 on the finished roof price. The second is the assumption that corrugated roofs will be used with a steel frame (i.e. will be to wider spans). A glance at the tables shows that prices within each class vary between such wide limits that the three groups overlap almost to the point of coinciding. Thus the cheapest of the corrugated roofings gives a price for the finished roof of £29, but the most expensive in this class gives a price of £41 15s. The range for tiles and slates is £31 10s. to £60. The range for fully supported roofings is from £31 to £70. One reason for this similarity in price range is the manufacture of high quality com-

ponents in the corrugated sheetings class. Neither aluminium sheet at £40 5s. per finished square of roof nor protected metal sheet at £41 5s. can be accounted a 'cheap roof.' The range for clay tiles is £34 16s. 6d. to £43 5s., for Welsh slates from £37 17s. to £46 15s. The interesting newcomer in this 'unit' class is the reconstructed stone slate. Though the material itself is comparatively cheap (£6 12s. per square), it is heavy and, therefore, requires a fairly substantial structure, giving a finished roof price of £32 11s. Its interest lies in its weight, for weight in a roof, particularly when apparent, has a connotation of quality. We have, therefore, another example of a factory made product which aims at producing an effect of quality.

At the traditional end of roofing, there have been moves towards greater neatness in detailing some of the materials. One example is 'economy' copper roofing which with its system of fixing clips allows considerably longer sheets of metal to be used than hitherto. The fully interlocking tile allows a roof of lower pitch than any other form of tile (though not so low as some manufacturers encourage architects to believe) and is seen at its best in roofs composed of simple flat planes.

These three factors—the similarity in price range, the move towards quality in large manufactured components and the move towards simplicity of profile in traditional components should make it possible for the architect to set aside the false dichotomy of 'traditional' and 'modern' and to make his choice of roof material—and thence of roof form—on a rigorous and impartial investigation of fitness. One word in

conclusion: it is always better to choose on the evidence of an actual roof than any representation in a catalogue.

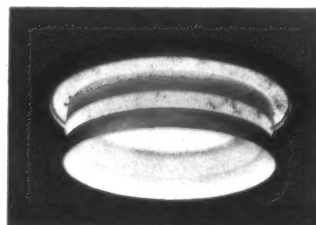
This concludes the series of articles on roof coverings. Tables to supplement this and the previous article,

giving sizes, weights, costs, etc. have been prepared on the same lines as those printed with the first article, and a complete set of all three articles and tables is being published separately. It can be obtained from the office of the *Review*, price 1/6d., postage free.

THE INDUSTRY

Lighting

To the Mondolite range is now added three new recessed ceiling fittings, all using the same reflector bowl and holder, but with different



1, recessed ceiling fitting.

systems of louvring. Prices range from £3 19s. 8d. to £4 16s. 10d. (including purchase tax). *Troughton and Young (Lighting) Ltd.*, 143 Knightsbridge, S.W.1.

New Addresses

Concrete Ltd., the makers of 'Bison' floors, announce the opening of a new sales office at Winchester House, 5 Victoria Square, Birmingham.

Plyglass Ltd. have recently opened

a northern office and showroom at 8 Eldon Terrace, Leeds.

The Cathedral

A Warwickshire tile firm proudly announce their development of an 8½ in. hexagonal tile, made from the same clay as 'blue staffords' for use



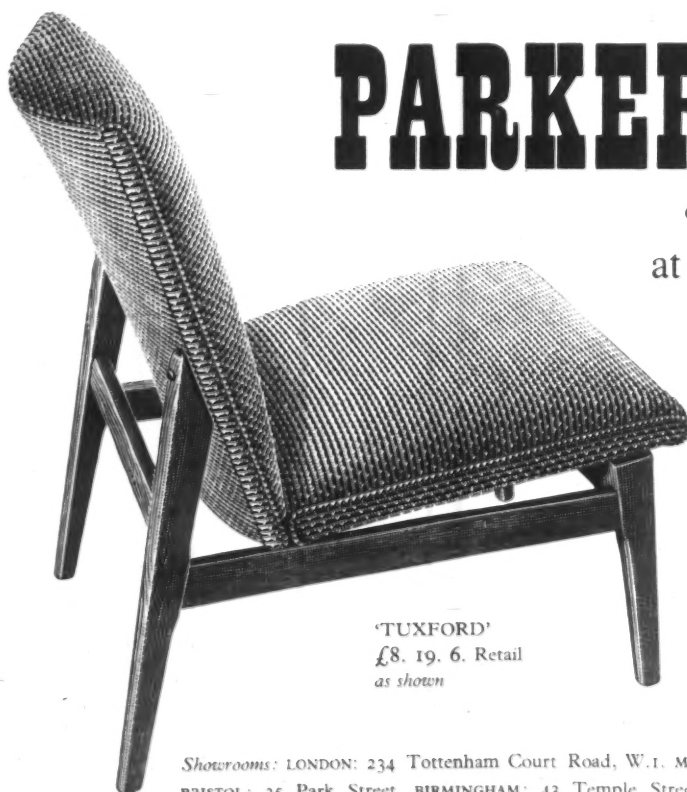
2, 2 in. thick flooring tiles.

in the undercroft of Coventry Cathedral. The tiles were 2 in. thick. Other architects may be interested in the use of these for paving. *The Haunchwood Brick & Tile Co. Ltd.*, Stockingford, Warwickshire.

Heating Installations

The sixteenth list of approved solid fuel burning appliances comes out in the new A5 (pocket) size.

[continued on page 142]



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Architects and those responsible for interior decoration will be glad to know that Parker-Knoll chairs and settees are frequently available at special contract prices.

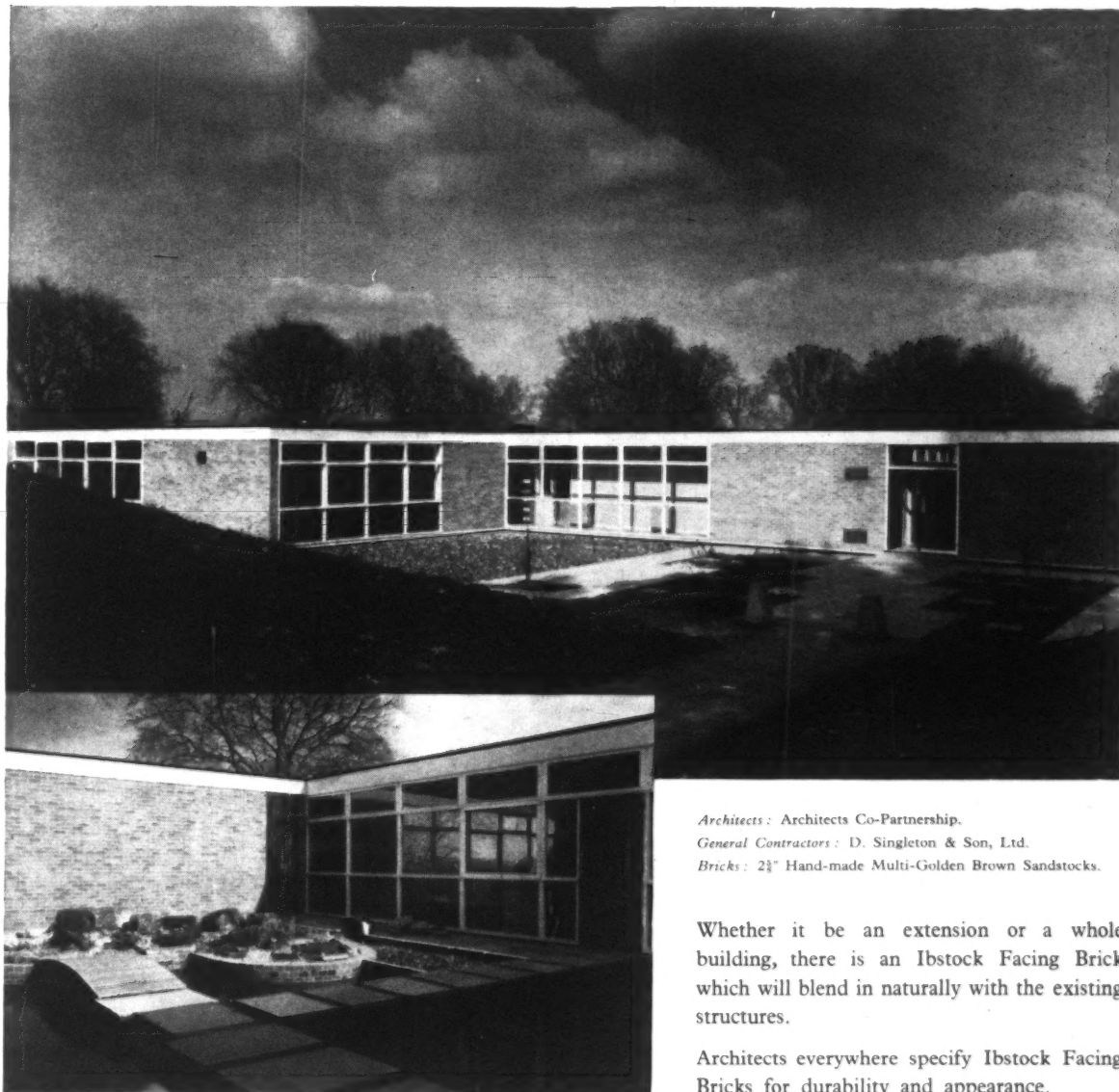
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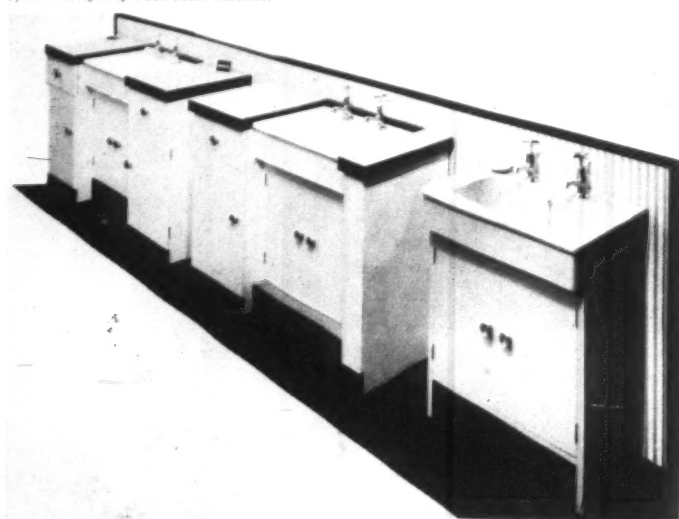
continued from page 140]

8½ in. by 5½ in., and announces that 'approval,' formerly given by the Ministry of Power, is now in the hands of a Council representing the various interests—coal, coke, gas, ironfounders and the MOP.

The booklet gives names, outputs, fuel types, etc., for scores of appliances and the addresses of manufacturers, but it is unfortunate that the introductory notes are not more explicit about the basis of approval. The notes against classes of appliances reveal that there is no standard test method. What we need are clear criteria by which to compare.

Since the last issue of the booklet a standard method of rating openable

3, three designs of wash basin-cabinets.



stoves has been agreed—in the past some makers assumed optimistic operating conditions to improve their figures. The warm air section (only two makers) contains a curious little note: 'It must be appreciated that central heating by hot water radiators . . . is a well-established form of whole house heating.'

Coal Utilization Council.
Solid Smokeless Fuels Federation.

Wash Basins

The wash basin-dressing table which recently made its appearance is now joined by the wash basin-cabinet. Three types are offered: basin with cupboard under, with

cupboard under and to one side, with cupboard under and both sides. They are available in white, the inescapable pink and other colours at prices from £12 to £31. The plinth which can be seen in the photograph, pulls out to form a raised platform for children to stand on and reach the basin. 'Draining boards' are covered with rigid plastic.

Bilston Foundries Ltd., Highfields, Bilston, Staffs.

Internal Doors

At least one maker has made a commendable effort to design a pleasantly neat spring door closer of the smaller type, suitable for the domestic door, and has received the approval of the Design Centre. The de luxe model of the Gibraltar closer has concealed fixing screws, chromium arm and costs 27s. 6d. The standard model costs 17s. 6d. The spring casing is 4 in. long and



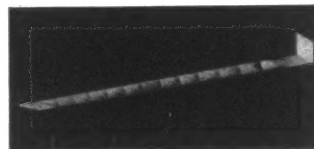
4, Gibraltar door closer.

tension is simply adjustable. It is to be hoped that the makers will be able to extend the range of finishes; at present these are limited to black or cream, although they do offer colours as specified for bulk orders. C.G.L. Engineering Co. Ltd., Wheat-hampstead, Herts.

Lighting

When an industry continually sur-

prises the market with new designs it is a sign that there are some recent fundamental discoveries, or that the



5, single tube lighting pendant.

industry is in low water or that the company directors are very active men. In lighting, the second reason hardly seems to apply. GEC have announced a new range of fittings under the watchword 'comfort light-



6, comfort lighting unit.

ing,' which they say can provide general lighting up to 100 lumens per sq. ft. without discomfort glare (presumably without disability glare either). The solution appears to be

[continued on page 144]



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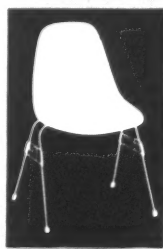
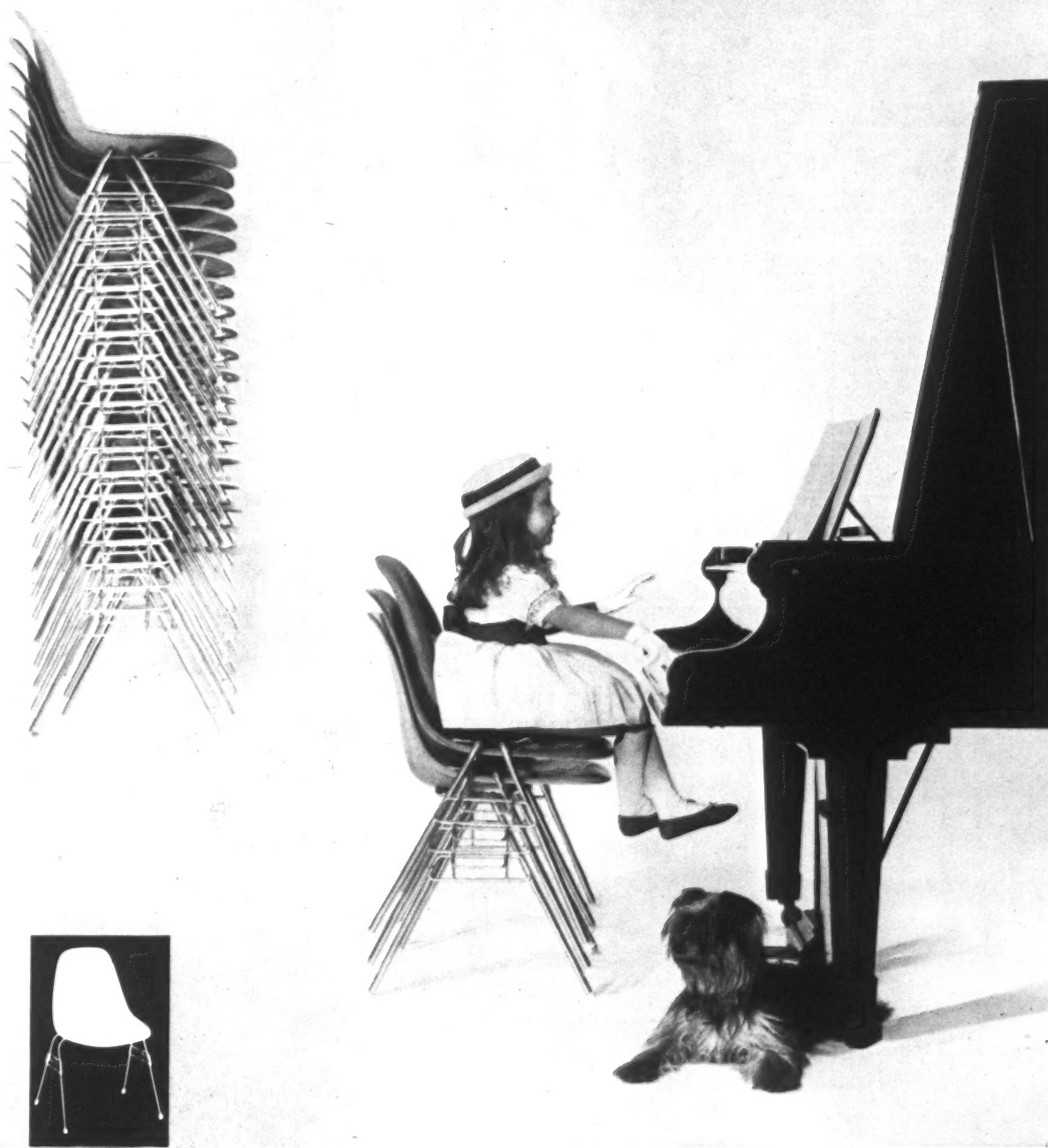
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continued from page 142]

that of maintaining a low cut off angle (55-60 degrees from the vertical) and making sure of a low surface brightness on the illuminated part of the fitting still visible outside the cut off. A 'stepped louvre' does this for some of the fittings. The designs shown are plain and good. General Electric Co. Ltd., Magnet House, Kingsway, W.C.1.

CONTRACTORS etc

Seamen's Home at Erih, Kent. Architects: Gollins, Melvin, Ward and Partners. General contractors: A. E. Symes Ltd. Sub-contractors: Structural steelwork to single-storey buildings: Bracketing, Centering & Lathing Ltd. Curtain walling, windows, metal closers and gearing: Mellows & Co. Electrical installation, lighting protection and television installation: A. H. Cornwall & Sons. Lift installation: J. & E. Hall Ltd. Steel stairs and balustrading: H. & C. Davis & Co. Heating, ventilation, hot and cold water supply, gas and fire fighting installation: Barratt & Wright Ltd. Steel framing to entrance canopy: Banister Walton & Co. Pre-cast terrazzo lavatory and in situ terrazzo floor finish: Alpha Mosaic & Terrazzo Co. Sliding folding partitions and doors and cupboards: Symes (Joinery) Ltd. Roller shutters: Shutter Contractors Ltd. Staircase balustrades: C. A. and A. W. Haward. Metal venetian blinds: Tidmarsh & Sons. Facing bricks: R. Parton Ltd. Glass dome lights: Haywards Ltd. Cubicle pattern switch board: Varilectric Ltd. Bed head radio equipment: Marconi Marine Co. Bed head units: Veritys Ltd. Sanitary fittings: John

Bolding & Sons. Ironmongery: G. & S. Allgood. Curtain track: W. A. Hudson Ltd.

Studio at Charterhouse School. Architect: James Dartford. General contractors: F. Milton & Sons. Sub-contractors: Steelwork: W. Dibben & Sons. Terrazzo: Zanelli (London) Ltd. Flooring (tiles and chipboard): Aladdin Services (London) Ltd. Roofing: H. Newsum, Sons & Co. Roofing felt: Ruberoid Co. Drainage: Kaymat Ltd. Aluminium windows: Quicktho Engineering Ltd. Blinds, library curtain: Tidmarsh & Sons. Precast flue: True Flue Ltd. Urbridge flint bricks: Cape Building Products Ltd. Slate eills and fascia: Bow Slate & Enamel Co. Asbestos: G. R. Speaker & Co. Wood windows: H. C. James Ltd. Flush doors: Thames Plywood Ltd. Electric heating cables: Thermodare (GB) Ltd. Dome lights: W. J. Cox Ltd. Box gutter: G. A. Harvey & Co. Sanitary fittings: Shanks & Co. Fibreboard ceilings: Walter Fry Ltd. Spiral stair, window grilles and screen poles: T. W. Palmer & Co. Sliding door gear: Coburn Engineers Ltd. Door furniture and ironmongery: A. G. Roberts Ltd. Miscellaneous hardware: W. N. Froy & Sons. P.V.C. skirtings and handrails: Marley Tile Co. Light fittings: Merchant Adventurers Ltd. Lightweight concrete blocks: Thermalite Ltd. Chipboard floor tiles: Airscrew Co. & Jicwood Ltd. Clay floor tiles: Tondur Flooring Tile Co. Paints: I.C.I. (Paints). Flashings, etc.: Expandite Ltd. Furniture and special fittings: Andrew Bentley Ltd.

Science Laboratories at Bryanston School. Architects: Architects Co-Partnership. General contractors: D. Singleton & Son. Sub-contractors: Timber, window and door units: East & Son. Timber roof: H. Newsum, Sons & Co. Felt roofing: Wm. Briggs & Sons. Wood

block flooring: 'Crestaling' flooring: Gabriel, Wade & English Ltd.; Balastic Ltd. Laboratory furniture and fittings: Spencers Joinery Ltd. Blinds: London Blinds Ltd. Roller shutter: Haskins Ltd. Bricks: Ibstock Brick & Tile Co. Ceiling: Cape Building Products Ltd. Concrete partition blocks: Lignacite (Fordingbridge) Ltd. Rooflights: Quicktho Engineering Ltd. Fire-fighting equipment: Harry Broughton; Pyrene Co. Louvers: Williams & Williams Ltd. Ironmongery and sanitary fittings: William Dibben & Sons. Night storage heaters: Tyrad Electric Ltd. Light fittings: Merchant Adventurers of London Ltd. Extract fans: Vent-Axia Ltd. Paint: Docker Bros. Doors: Gliksten Doors Ltd. Chalk boards: Wilson & Garden Ltd.; Tabula Chalk Boards Ltd. Shelving: Savage & Parsons Ltd. Furniture: Avant Galleries Ltd.

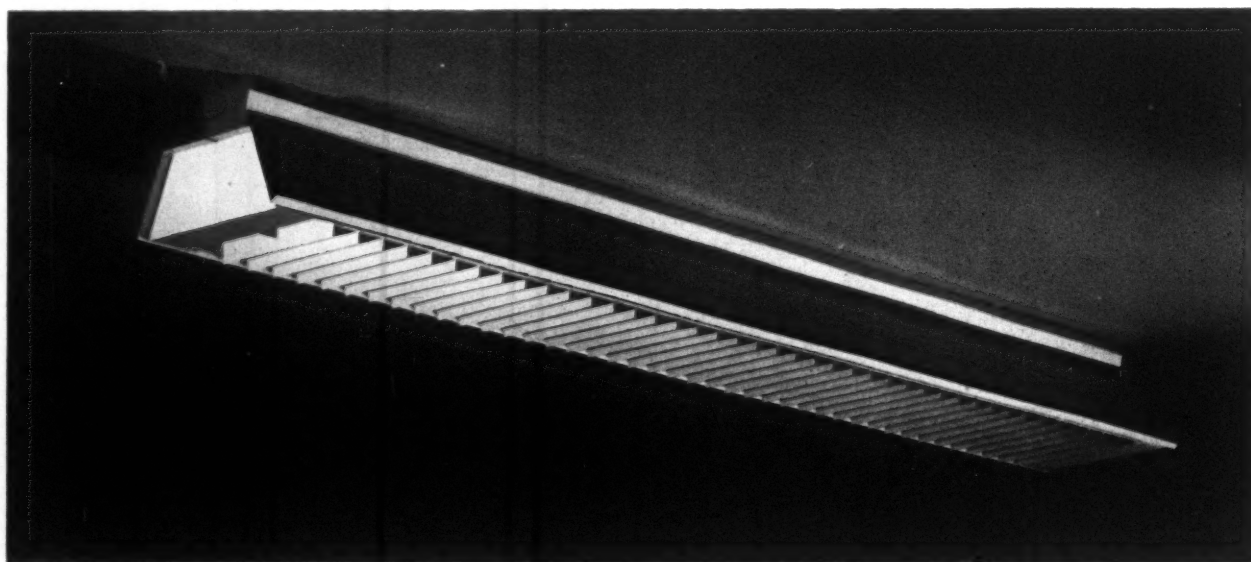
Offices in Queen Anne's Gate, London, S.W.1. Architect: Ian McCallum. General contractors: Allen Fairhead & Sons. Suppliers: Heaters: E. K. Cole Ltd. Furniture: Conran Furniture; Kandya Ltd.; Hille of London. Light Fittings: Troughton & Young (Lighting) Ltd.; Thorne Electrical Industries Ltd. Flooring: Catesby's Ltd. Upholstery: Bentalls (Kingston) Ltd. Coloured glass: Faulkner, Greene & Co. Mirrors: F. C. & R. G. Turner Ltd. Paint: Hond & Langer Ltd. Hardboard: Wiggins-Sankey Ltd. Formica: C. F. Anderson & Son. Sliding door gear: Charles P. Moody. Plywood: McFarlane Burchell & Co. Plasterboard: Wiggins-Sankey Ltd. Door furniture: James Gibbons Ltd.

School at Swaythling, Hampshire. Architect: Richard Sheppard, Robson & Partners. General contractors: Brazier & Son. Sub-contractors: Piling: Soil Mechanics Ltd. Dampcourses: The Ruberoid Co.; R.I.W. Protective Products Ltd. Asphalt tanking, roofing

and felt: General Asphalte Co. Precast flue: True Flue Ltd. Structural steel: William Dibbens & Sons. Tiles: Builders Merchants Ltd. Slates: Manchester Slate Co. Terrace roofing: D. Anderson & Son. Partitions: Thermalite-Ytong Ltd. Glass: Clements Bros. (Haslemere) Ltd. Patent glazing: S. Warner & Sons. Woodblock flooring: Gabriel Wade & English. Plastic flooring: Armstrong Cork Co. Central heating: Weatherfoil Heating Systems Ltd. Electric light fixtures: Frederick Thomas & Co.; The Merchant Adventurers Ltd.; G.E.C. Ltd.; S.L.R. Electric Ltd. Ventilation: Greenwoods & Airvac Ventilating Co. Sanitary fittings: Adamsez Ltd. Door furniture: A. G. Roberts & Co. Metal windows: Metal Casements Ltd. Clocks and bells: Gent & Co. Doors: Gliksten Doors Ltd. Sunblinds: J. Avery & Son Ltd. Stage equipment: G.B.-Kalee Ltd. 'Saivo' mosaics: A. Elder Reed & Co. Plaster: Tellings Ltd. Wallpapers: Wallpaper Manufacturers Co. Paints: I.C.I. (Paints) Ltd.

House at High Hoyland, Yorkshire. Architect: Michael Burton. General contractors: Elvey & Steel Ltd. Sub-contractors: Bricks: Stonehenge Bricks Ltd. Structural steel: Firth Bros. Ltd. Special roofings: Limmer and Trinidad Lake Asphalt Co. Sanitary fittings: W. N. Froy & Sons. Door furniture: James Gibbons Ltd. Garage folding doors: Westland Engineers Ltd. Iron staircases and metalwork: Victoria Forge. Joinery: Broadheads. Marble: A. Andrews & Sons.

Motor Showrooms at Staines. Architects: Westwood, Sons & Partners. General contractor: George Jarvis & Co. Sub-contractors: Steelwork: R. Smith (Horley) Ltd. Roofing, ceiling: Carter-Horseley (Engineers) Ltd. Flooring: Jaconello Ltd.



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